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Including Syphilis

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THE JOURNAL OF CUTANEOUS DISEASES

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Original Communications

THE TREATMENT OF DERMATITIS VENENATA BY VEGETABLE TOXINS*

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PHILADELPHIA

This study was undertaken with the object of throwing some light on a number of factors relative to dermatitis venenata.

(1) The elaboration of an endermic test, by which we could tell to which one of the poisonous plants the particular individual was susceptible.

(2) To determine whether the intramuscular injection of the vegetable toxin derived from the homologous poisonous plants would influence the course of dermatitis venenata.

(3) To determine whether it is possible to desensitize individuals against dermatitis venenata by the intramuscular injections of the homologous vegetable toxin; the number of injections necessary for the process of desensitization, and how long such a protection would last.

(4) Lastly, whether complement-fixing bodies could be found in the serums of patients who have had an attack of dermatitis venenata and had been treated by the injection of the homologous vegetable toxins.

PREPARATION OF THE ACTIVE PRINCIPLE

Many attempts have been made to isolate the active principle of poisoned ivy or oak. The first effort in that direction was made by von Mons in 1779. In 1865, Maisch isolated his toxicodendric acid—

* Received for publication March 22, 1918.

* Read before the Annual Meeting of the American Society of Immunologists, May, 1917.

a volatile substance. This substance was shown to be entirely inert. The best and most recent work shows the active principle of poisoned oak or ivy to be a substance of a glucosidal nature, yielding, on analysis, gallic acid, fisetin, and rhamnose. The poison is nonvolatile, even when mixed with acetic acid or alcohol.

Briefly, the method of isolating this glucosidal substance consists of gathering the fresh leaves of poisoned ivy, for example, and extracting with absolute alcohol, filtering and precipitating. The precipitate is dried and extracted in Soxhlet extractors for ten hours. The extract obtained is dried at a low temperature. The toxin is carefully weighed and dissolved in absolute alcohol, to which a certain amount of sterile distilled water is added to make it nonirritating. By this method we obtained the poisonous principle of ivy, sumac and nettle which we employed in our experiments.

In this study, our efforts were directed to determine whether the injection of the poisonous principle could influence the eruption and the subjective symptoms of dermatitis venenata.

TECHNIC

The endermic reaction was performed by injecting 1/20 c.c. of each of the glucosidal vegetable toxic solutions of ivy, sumac and nettle, and also of the dilutant under the epidermis. A tentative reading was made in twenty-four hours after the injection and treatment was soon instituted, since dermatitis venenata is a fleeting affection, and also very annoying while it lasts. The final reading was made in forty-eight hours after the first injection. Those of the vegetable toxins which are positive, as shown by the development of a papule, erythema and some tenderness at the point of injection, are used in the intramuscular injections for purposes of treatment and desensitization.

In all, 12 patients were treated. First, an attempt was made by the endermic method to determine to which of the various plants the individual was susceptible.

REPORT OF CASES

The following is a brief résumé of the patients treated.

CASE 1.—Miss McD. This patient had dermatitis venenata for eighteen days, developing into an eczema. The endermic test showed positive ivy. Patient was given Rhus toxin, 0.3 c.c., intramuscularly. Two days afterward she received 0.5 c.c. of Rhus toxin and was discharged cured two days after the last injection.

CASE 2.—L. B. Dermatitis venenata of ten days duration and which involved hands, ears and legs. Rhus toxin positive. The patient was given 0.5 c.c. of Rhus toxin, intramuscularly. The itching subsided and lesions dried up. Given no local treatment. Discharged cured.

CASE 3.—H. L. Dermatitis venenata involving neck, chest, fingers, arms, lips and genitalia; duration, two days; attacks recurrent. Endermic tests showed sumac positive. Patient was given sumac toxin, 0.3 c.c., intramuscularly. On

the next visit, which was three days after the first, the patient stated that all swelling was gone, there was no more itching and the eruption had dried up. He received no local treatment.

Case 4.—Miss P. Private patient; dermatitis on right leg, which developed one week after the patient was in the country. It was pronounced a dermatitis venenata and she was given directions for local applications by two physicians. When she consulted us, her leg was red and the skin itchy. The endermic tests showed sumac positive. She was given 0.5 c.c. of sumac toxin, intramuscularly. Two days later, the eruption was paler and more scaly and the itching had subsided. She was given 0.7 c.c. and on the occasion of her next visit, which was two days later, the condition had become normal. No local treatment was prescribed.

Case 5.—S. L. (Referred by Dr. Finck.) Dermatitis venenata involving arms, chest and thighs. Itching was very marked. Lesions were still present. The patient had had local applications which influenced the lesions slightly, but not the itching. This attack was contracted when the patient passed a wooded area containing poisoned plants. The endermic tests showed ivy positive and sumac reaction weakly positive. The patient was given ivy toxin, 0.4 c.c., sumac toxin, 0.3 c.c. The next day the itching was gone and the lesions were drying up. In three days after the first visit the patient was well. At my request the patient continued to walk through that same wood and had remained free of any attacks of dermatitis venenata all summer.

Case 6.—M. McC. Dermatitis venenata involving face, forearm and neck. Face markedly swollen and eye closed. Duration, twenty-four hours. The endermic reaction showed ivy toxin positive. He was given 0.5 c.c. of Rhus toxin and no local treatment. The next day, the swelling markedly improved and the itching was almost gone. In two days after the injection, he was cured and was discharged.

Case 7.—D. S. Dermatitis venenata involving the entire body; face markedly swollen; eyes closed; marked itching. The endermic tests showed sumac positive. He was given 0.5 c.c. of sumac toxin, intramuscularly, but no local treatment; on the next day the swelling of his face and eyes was gone; lesions were still present on the arms. The next day he was given 0.5 c.c. of sumac toxin. The vesicles and some redness were still present on the arms. Owing to some crusting carbolized vaselin was prescribed. Four days after the first injection, the patient presented absence of swelling, no lesions, no itching, but a few crusts were still present on the arms.

Case 8.—A. Aug. Dermatitis venenata affecting the right hand, which was swollen and studded with vesicles. Duration three days. Endermic tests showed sumac positive. He was given 1 c.c. of sumac toxin. The next day the swelling and the vesiculation were lessened. The improvement continued and in four days after his injection he was discharged cured. He received no local treatment.

Case 9.—B. K. Dermatitis venenata involving face, ears, arms, legs and genitalia. Duration, two days. Endermic tests showed Rhus toxin positive. He was given 0.7 c.c. of Rhus toxin, intramuscularly, which was followed by great improvement. On the next day he was given 0.5 c.c. of Rhus toxin and when he reported the following day, the swelling and itching were gone. Vesicles were drying up and erythema was still slightly present. The patient received no local treatment.

Case 10.—A. D. L. Dermatitis venenata involving hands and legs, duration from four to five weeks. The parts affected were red, presented vesicles having a linear arrangement. Subjectively there was considerable itching. The condition had recurred yearly for three or four years. The endermic test showed ivy toxin positive. He was given 0.7 c.c. of Rhus toxin and the next day the itching and redness were entirely gone and the patches became scaly. Two days following the first injection he was given 0.5 c.c. of Rhus toxin. There was no local treatment. Four days after the first injection, the patient played

golf among poisonous weeds and had no recurrence, although on every previous occasion, when playing in that particular field, he would develop a dermatitis venenata. On the occasion of this visit he was given 0.5 c.c. of Rhus toxin intramuscularly, and 0.5 c.c. on the next day also. Our reason for administering these last two doses was to get an idea as to how many treatments were necessary to desensitize this patient and how long this desensitization would last. For one month, this patient was free from dermatitis venenata although frequently exposed in such manner as to favor an attack; but at the expiration of the month, he developed another attack of dermatitis venenata.

CASE 11.—T. A. U. Private patient. Dermatitis venenata on hands and arms. Duration, two days. Endermic tests showed sumac strongly positive and Rhus weakly positive. He was given sumac 0.5 c.c., Rhus toxin 0.4 c.c. The next day itching was gone and he was given sumac, 0.5 c.c., ivy toxin, 0.5 c.c. Four days after the first injection the lesions had all disappeared. He was given two more injections and although the patient exposed himself again, he had remained free from an attack of dermatitis venenata. No local treatment was prescribed.

CASE 12.—W. L. Private patient, referred by Dr. Meyer Solis-Cohen. Dermatitis venenata, generalized; duration, two days; contracted while picking ivy leaves. He has had three previous attacks. There were marked swelling, vesiculation and itching. Local remedies were applied for two days without any improvement either in the subjective symptoms or the objective phenomena. He was given 0.6 c.c. of Rhus toxin, intramuscularly. The next day the swelling was reduced considerably and itching was much less. There was no local treatment. He was given 0.7 c.c. intramuscularly; on the next day, 0.8 c.c. was given intramuscularly. By this time the patient was convalescent and this was only on the third day following the first injection. Five days after the first visit the patient was absolutely normal.

COMMENT

In all, the serums of seven patients were studied by means of complement fixation and in every one the reactions were negative. The antigens employed were ivy, sumac and nettle and the cholesterinized syphilitic antigen was also employed. This syphilitic antigen was also negative in all the serums tested. The method of performing these complement fixation tests was similar to that used in bacterial complement fixation.

RÉSUMÉ

1. From our experiments, we have reason to believe that the intramuscular administration of the toxin of the various poisonous plants has an influence on the course of dermatitis venenata.

2. By no means do we advocate this procedure as a routine method of treatment except in extremely severe cases, or when there is a desire to attempt desensitization.

3. From our own observation and the experiments of others, we believe that the immunity of dermatitis venenata is a tissue immunity, fleeting in character and one that has to be frequently renewed.

4. It is our impression that it is possible to develop an endermic test for the detection of the particular poisonous plant to which the individual is susceptible.

5. In the few cases we have tested, complement fixation in dermatitis venenata has proved negative.

6. It is our impression that it is possible to desensitize individuals against dermatitis venenata although our experience as yet is very limited.

It is hoped that during the coming summer we will have many opportunities to try out the desensitization of dermatitis venenata so that we can come to a definite conclusion as to the value of the procedure.

EXPERIMENTS WITH ROENTGEN RAYS AND RADIUM*

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Better results are obtained with any therapeutic agent as exact knowledge of its physical properties, dosage, mode of application and physiologic action increases. Conversely, inaccuracies are productive of indifferent or disastrous results. The experiments recorded in this communication are for the purpose of substituting facts for clinical impressions, and it is hoped that the work may prove of some practical value to the science and art of superficial roentgentherapy.

Most of the unsatisfactory and untoward effects are caused by inaccurate dosage. Various instruments for the quantitative measurement of the roentgen ray have been designed, all more or less accurate in skilled hands. The Hampson radiometer is objectionable because it is difficult to obtain pastilles that match the Hampson zero. Also, when several of these instruments are compared, it is found that the colored index differs to a rather marked degree. The objection to the Corbett radiometer is the difficulty of obtaining pastilles that match the zero tint and the method of comparing the pastille with the zero allows a confusing halation. The Kienböck radiometer is accurate and in the hands of experienced operators gives excellent results, especially in deep therapy. However, certain objections obtain: a strip of the exposed photographic paper must be developed before the dosage can be read; the paper, the time of development, the temperature of the developer, the composition of the developer, etc., must all be standardized and any variation in the technic will affect an error of dosage. The Ionto radiometer, which depends on the ionizing effect of the ray on gases, is still in the experimental stage but the results are promising.

The objections just mentioned are well known to roentgenologists of experience and have been recorded by many of them. These objections are to a large extent wanting in the Holzknecht radiometer. In this instrument the pastille is cut in half, one half is placed under the transparent, graduated color index, and the other half is exposed to the roentgen ray. This allows of a very accurate comparison of colors. The chief difficulty with this instrument is that the color index is not permanent.

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*From the Department of Dermatology and Syphilology, Columbia University, College of Physicians and Surgeons, New York.

The pastille method is objected to on the ground that the pastilles of barium platinocyanid are affected by light, heat and moisture, as well as by roentgen rays. As has been demonstrated by others, these difficulties can be readily overcome. The effect of heat can be eliminated by keeping the pastilles in a ventilated humidor in which an even saturation of the contained air is obtained by including a small vessel full of water. Light will cause the treated pastille to fade, this being paricularly true of daylight, and therefore pastilles are always enclosed in small light proof envelopes while exposed to the action of roentgen rays. This reduces the possibility of error but does not eliminate it. Treated pastilles exposed to light from a 16 candlepower lamp were found to fade an appreciable amount after three minutes' exposure, this being particularly true in the higher readings. Thus to be accurate, readings should be made within the length of time stated after being removed from the envelope and immediately after treatment, because there will be a slight fading after a considerable length of time even when the pastille is enclosed in black paper.

To determine a possible source of error from the heat produced by the tube while in action, a thermometer was exposed at different distances from the tube, the temperature being noted when the anode exhibited different degrees of heat. Short of white heat the temperature rise did not exceed 10 C. When white hot, the rise amounted to as much as 25 C. The heat, of course, varied with distance, but from 1 to 4½ inches from the face of the tube the difference, except at white heat, represented only a possible variation of 5 or 6 C. With the anode white hot the temperature rise at 1 inch was 25 C.; at 2½ inches, 18 C., and at 4½ inches, 11 C. During these experiments the room temperature was maintained at 26.6 C. and all windows and doors closed to eliminate drafts. To determine the effect of the temperatures demonstrated, pastilles were exposed to different temperatures for varying lengths of time in incubators. It was found that incubation for an hour at 51 C. was not productive of any color change; untreated pastilles were not colored, and treated pastilles did not fade nor did they assume a darker hue. Unexposed pastilles which were exposed twenty-four hours or longer, were colored considerably and exposed pastilles became darker. It was noted that color added by heat was permanent, not fading after several hours' exposure to bright sunlight. I feel that I am justified in the conclusion that error is not likely to occur through coloration of pastilles by heat while the tube is in action.

THERAPEUTIC APPLICATION

Epilation of the scalp by roentgen rays is the msot effective method of treating favus and tinea infections of the scalp and in skilled hands is a safe procedure as evidenced by the fact that some 200 cases have been epilated at the Vanderbilt Clinic during the past few years,

the work having been done by several different men, and not a single permanent alopecia produced. The technic used was perfected by Kienböck and Adamson; briefly it comprises an application of H* 1 to each of five points on the scalp, equidistant from each other, the application being so made that overlapping of rays will give uniform dosage over the entire area. In the course of this work it was noticed that certain cases not completely epilated nevertheless recovered, and that in a few cases in which comparatively intensive scalp treatment was used over limited areas, we did not get the expected permanent loss of hair. In an attempt to throw some light on the subject, patients were treated in various ways. We found that H ½ produced no alopecia; H ¾ caused hair to fall from tinea patches, the surrounding healthy hair remaining firmly rooted. These patients were cured in some instances if they followed directions as to shampooing, the use of ointments, etc., but usually new areas were infected in the course of epilation from the primarily diseased spots. Results obtained with from H ¾ to H 1 varied from those just described to complete epilation. Fractional treatments by the same technic gave the same result as the single application of H 1, provided the total dosage in two weeks equaled that applied by the original method. To determine the margin of safety in scalp epilation, patients were treated with the usual H 1 Kienböck-Adamson method, and then additional dime-sized areas on the back of the scalp were given H ¼, ½, and ¾, respectively. It has been difficult to follow up these cases because as soon as the infection was cured our patients promptly disappeared. However, from the few cases still under observation, we are led to believe that H 1½ will not necessarily cause permanent loss of hair, but that H 1¾ will nearly always do so. Thus, by employing H 1 (skin distance) for the epilating dose, H ¼ or ⅜ is the margin of safety. Perhaps even H 1½ may be applied because we have noticed that after a much longer time than is usually required for regrowth, hair appears in some of the experimentally overtreated spots. However, these experiments are not completed and will be reported later.

TECHNIC

The technic employed in this work was that in use at the Vanderbilt Clinic by Drs. MacKee and Remer, whose instruction and supervision have made this work possible. The Coolidge tube with its remarkable flexibility and uniformity of output was used exclusively. The Holzknecht radiometer and unit before mentioned were the standards of quality, pastilles being read at skin distance. When fractional doses were to be used, the tube and machine were standard-

* H = Holzknecht.

ized with definite milliamperage and spark gap in the high potential circuit, and at definite distance from the anode of the tube to the pastille; the time required to obtain a full unit was then noted, and by maintaining all other fixed factors and varying the time, various fractions of a unit were obtained. For determining doses approaching skin toleration, the pastille was placed on the surface treated for each application.

Qualitative measurement was accomplished by the Benoist radiochromometer. We have long known that rays from the roentgen tube were not homogeneous but composed of rays of various wave lengths and corresponding powers of penetration. It has also been recognized that penetration depends on the voltage passing through the tube. With these facts as premises, I have attempted to show the relationship between the Benoist readings on the one hand and the length of the parallel spark gap on the other. Readings by the instrument named were made while the tube was backing up a spark gap of 1, 2, 3, 4, 5, 6, 7, 8, and 9 inches, respectively, and it was found that there was a definite progression in penetration of the rays as the spark gap length was increased, and that the resulting average penetration depended entirely on the gap and bore no relationship to the quantity of current used. Using any gap length as a constant factor and varying the number of milliamperes passing through the tube made no difference in the resulting Benoist readings. It is recognized that the kind of spark gap terminals and the kind of machine as well as the personal factor, bearing more particularly on the proper way of determining the length of the gap, may be productive of different results, but these differences will be of no practical importance. In these experiments the length of the gap in inches was noted when just an occasional spark passed over the gap in preference to going through the tube. The following results were obtained a number of times with but slight variation:

TABLE SHOWING THE RELATIONSHIP BETWEEN THE LENGTH OF THE PARALLEL SPARK GAP AND THE BENOIST READINGS

Spark Gap	Benoist	Spark Gap	Benoist
1 inch	2	6 inches	8
2 inches	3	7 inches	10
3 inches	4	8 inches	11
4 inches	6	9 inches	12+
5 inches	7		

From a practical standpoint these facts are of importance because they obviate the necessity of constantly using some method of direct measurement of quality. One is able during each treatment to apply a ray of desired penetration by an adjustment of the parallel spark gap.

SELECTION OF RAYS

Considerable controversy exists as to the advisability of using rays of high or low penetration in skin diseases. Approaching this problem, H 1, B 10 and H 1, B 3 were applied on the back of a man of fair complexion. The application was so arranged that on one side of the spine H ¼, ¾, ½, and 1 B 10 were applied close together, and on the other side H ¼, ½, ¾, and 1 B 3. An erythema was obtained that was identical, quantity for quantity, of the B 10 and B 3 ray applied. This was corroborative of an experiment reported by Remer and Witherbee. Suitable clinical cases were then treated, half the diseased area receiving B 10 ray and the other B 3 ray, each area receiving the same quantity. Such diseases as acne, sycosis, eczema and psoriasis responded well to both, but rays of high penetration gave the best results, especially so in deep-seated lesions. Lupus erythematosus was in one patient cured by a ray of very low penetration, but the result obtained is inconclusive because the experiment was not properly controlled; another case is now under treatment, lesions on one side of the face receiving high ray while those on the other side receive low, but it is too soon to expect any result. Deep-seated lesions are best treated by rays of high penetration on account of the filtering effect of the tissues.

ROENTGEN RAYS AND RADIUM

Comparisons were made of roentgen rays and radium in suitable cases and in most instances the end-results were similar. However, radium gave by far the better results with lupus erythematosus and vascular nevi, and was the method of choice in dermatoses that were difficult to treat with roentgen rays on account of location. In a few dermatoses radium was effective and roentgen rays useless; in others roentgen rays were chosen because of greater ease of application over large areas and because of greater output of energy. In still other conditions roentgen rays only are practical, examples of which are extensive mycotic diseases of the scalp, widespread mycosis fungoides, etc.

TREATMENT OF LARGE AREAS

In treating large areas, as is necessary in certain dermatological conditions, it is advisable either to make numerous applications, protecting with lead all except the area to be treated, or else by allowing overlapping of rays from different focal points to obtain approximate or equal dosage over the entire surface. In either case it is important to know the distribution of the rays. To determine this the open tube was placed with its long axis parallel to a plane surface and a definite distance from the surface to the anode established. Then two rows

of pastilles were placed on the table, one row parallel to the long axis of the tube and the other at right angles to the first and crossing it directly beneath the anode, each pastille being placed at a fixed distance from its neighbor. Roentgen rays were applied until the pastille at the center registered 1 H unit. Then the other pastilles were read and the results charted. At an 8 inch distance from the anode with H 1 on the center pastille, it was found that pastilles 2 inches distant in all directions gave practically the same reading as the central one; that 4 inches in both directions and in the long axis of the tube, between ½ and ¾ H were obtained; that at right angles to the long axis of the tube, pastilles still registered close to H 1; that at 7 inches in the long axis of the tube, the reading was something less than H ½, and at 10 inches in the same direction pastilles registered 0; at 7 inches, at right angles to the long axis of the tube, something slightly over H ½ was obtained, while at 10 inches pastilles still read a doubtful H ¼. Thus uniform dosage, instead of being circular as we expected to find it, is elliptical with the long axis of the ellipse at right angles to the long axis of the tube. At an 8 inch treating distance it measured about 8 by 4 or 5 inches. Thus at 8 inches the selected points for treatment should be not more than 5 inches apart in the long axis of the tube, and not more than 8 inches apart at right angles to the long axis of the tube if the method of multiple application be followed. On the other hand, if one uses the open tube and allows for overlapping of rays, then in the long axis of the tube treatments should be applied about 10 inches apart; at right angles to the long axis of the tube, about 15 to 20 inches apart. This of course applies only to a flat surface, concavities and convexities being allowed for, according to the law that intensity varies inversely as the square of the distance, excepting when using filtered rays, when the rule of direct proportion applies, as recently established by Remer and Witherbee. In treating large or convex surfaces, the law relative to the intensity being in direct proportion to the sine of the angle of incidence must be considered. By increasing the distance from the anode we found that the size of the elliptical field increased proportionately, but was not as well defined as at the shorter distance. On the other hand, when the tube was moved nearer the field was narrowed. Thus, if one desires to treat a comparatively large area by a single application, approximately accurate dosage may be obtained by placing the tube farther away.

DETERMINATION OF DOSAGE

In determining dosage with instruments depending on the effect of roentgen rays on pastilles of barium platinocyanid, experience is necessary to be able to judge when the pastille should be read. It is

obviously essential that one know about when to first read his pastille in scalp epilation, in which the margin of safety is small, but it is just as essential to obtain accurate dosage each and every time the roentgen ray is applied. Certain physical laws determine the amount of roentgen rays delivered to any point; quantity varies inversely as the square of the distance; it varies directly as the milliamperage is increased or diminished; it varies directly with the length of the parallel spark gap and directly with time. Shearer showed that multiplying milliamperage by the length of the parallel spark gap in inches, multiplied by the time in minutes, divided by the square of the distance in inches, will equal units H. The resulting units H may vary on different machines, but after having established the equation for any machine, the rule will be found to be very helpful in determining approximate dosage, and by referring to the equation established, any unknown factor may be determined. It is not recommended for the accurate estimation of dosage, being of relative value only, but it certainly is of value in telling when to read a pastille when all the factors are known except the time.

Shearer's formula follows:

$$\frac{M. \times S.G. \times T.}{D^2} = \text{Units H.}$$

In the use of this rule it is of importance to remember that variations in the point of reading the gap, the kind of spark terminals, the accuracy of the milliamperemeter, etc., will produce widely divergent results.

FOLLICULITIS ULERYTHEMATOSA RETICULATA*

GEORGE M. MacKEE, M.D., AND MIHRAN B. PAROUNAGIAN, M.D.
NEW YORK

At the January, 1913, meeting of the New York Dermatological Society Dr. Whitehouse[1] presented a young woman who exhibited an interesting condition of the face. The published report does not agree with the recollection of, nor with the notes made of the case, by Dr. MacKee. The eruption (according to distinct recollection) was limited to the cheeks and the lateral aspects of the nose. It consisted of erythema and closely crowded, irregular areas of atrophy, separated by narrow ridges of apparently normal skin. Reticulation, honeycomb and network are the words that can be employed to describe the striking appearance. Whether or not comedones were present cannot be recalled; nor is anything known about the past history of the patient.

The above-mentioned case was instantly recalled when, in the latter part of 1914, a girl presented herself at Dr. Fordyce's clinic with an identical condition. This patient (Case 1) was presented by Dr. MacKee[2] at the February, 1915, meeting of the New York Dermatological Society and at the Clinical Session of the Thirty-ninth Annual Meeting of the American Dermatological Association, May 14, 1915. This patient, with one additional case, which came under the observation of Dr. Parounagian in 1915, constitutes the basis of this communication. Dr. Parounagian[3] presented his patient (Case 2) at the December, 1915, meeting of the Section on Dermatology of the New York Academy of Medicine. The presentation of these patients was followed by a discussion in which no one was able to identify the disease nor had any one seen a similar case.

REPORT OF CASES

CASE 1.—G. B., a girl, aged 16, was born in the United States of Jewish parents.

History.—The patient's family history was negative. Her past personal history revealed that, according to the patient and her mother,

* Received for publication March 15, 1918.

* From the Department of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University.

1. Whitehouse: Case for Diagnosis (Keloidal Scars), THE JOURNAL CUTAN. DIS., 1913, 31, p. 489.

2. MacKee: Reticulated Atrophy of the Skin Following Comedo, THE JOURNAL CUTAN. DIS., 1915, 33, p. 494; ibid., 1916, 34, p. 382.

3. Parounagian: Reticulated Atrophy, THE JOURNAL CUTAN. DIS., 1916, 34, p. 463.

the disease was first noticed at the age of 8 years. Comedones, erythema and pitted scars were noted at about the same time. It was impossible to ascertain which developed first. There were never any pustules, vesicles or papules. For a year or more the patient was under the observation of Dr. Lapowski at the Good Samaritan Dispensary, who removed some of the comedones and prescribed local applications similar to those employed in acne. The disease had been steadily progressive and it was still active when she entered Dr. Fordyce's clinic.

The patient had had the ordinary diseases of childhood with the exceptions of scarlet fever, varicella and variola.

The patient called attention to the fact that she had never had more than a dozen comedones at a time and that she was of the opinion that some if not most of the scars appeared without antecedent comedones. In any event the evolution of the eruption was very slow and steady.

Physical Examination.—The patient was a healthy and well developed brunette. Mentally she was bright—no suggestion of hysteria or neurasthenia. All the body functions were normal. Menstruation began at the age of 14. The Wassermann reaction was negative; the von Pirquet test was positive.

Description of Eruption.—The eruption was limited to and symmetrically distributed over the greater part of both cheeks. The skin over the rest of the body, the appendages and the mucous membranes were normal.

The eruption consisted of numerous closely-crowded, small areas of atrophy separated by narrow ridges. This produced a reticulated, honeycomb or network appearance (Figs. 1 and 2). The individual atrophic areas were pitlike, very abrupt, about 1 mm. in depth and ranged in size from ¼ to 2 sq. mm. In places, two or more depressions had united to form areas of perhaps 3 sq. mm. or even larger. They were very irregular in shape—square, polygonal, triangular, oval, oblong, serpentine, etc.

There were a few small comedones both in the depressed areas and in the ridges. A number of milium bodies were noted in the ridges. On close inspection with a lens small follicular horny plugs were noted.

The skin covering the narrow partitions or ridges was on a level with that covering the unaffected portions of the face. At first glance one gained the impression that the skin covering the ridges was normal, but on close inspection it could be seen that the skin was shiny—it looked waxy and stretched. In addition, on palpation, the ridges seemed more resistant—harder than the normal skin. The entire affected area was erythematous. At a distance this erythema appeared to be equally distributed, but on close inspection it was seen

that the depressions were markedly erythematous while the ridges were only slightly redder than the normal skin. At times the erythema was more pronounced than usual and then a sharp line of demarcation could be seen between the diseased area and the normal surrounding skin.

Case 2.—L. F., a boy, aged 9, was born in the United States of Hebrew parents.

History.—The patient's family history was negative. His past history disclosed that the eruption began, according to the boy's parents, at about the age of 5. Comedones were not noticed until attention was attracted by the scarring. The mother thought that both the comedones and the scars had occurred simultaneously. The evolution of the affection was very slow and apparently was independent of any other disease. The patient had not had varicella nor variola. There had never been any papules, pustules or vesicles.

Physical Examination.—The boy was poorly developed physically and he had pulmonary tuberculosis. All the general body functions were normal. The Wassermann reaction was negative; the von Pirquet test was positive.

Description of the Eruption.—With a few exceptions the description of the eruption in Case 1 will answer here. In the boy (Fig. 3) there were a larger number of comedones but fewer milium bodies. The comedones were larger and most of them were situated in the depressions. The ridges were harder and more waxy in appearance. The erythema was more pronounced and there was the same symmetrical distribution and limitation. There was no seborrhea—no papules, pustules, vesicles, desquamation, nor were there any subjective symptoms.

On the upper part of the right cheek there was a circular area, one-fourth inch in diameter, in which there was atrophy but no reticulation. Another smooth scar, near the mesial portion of the same cheek, can be seen in the photograph (Fig. 3). This scar was from the biopsy.

Subsequent History of Both Cases.—Both patients are still under observation (March 10, 1918). They have had no treatment of any kind for nearly two years, but a spontaneous improvement has occurred. There are now very few comedones in the girl's cheeks and fewer than formerly in the boy's face. In other words, the comedones seem to become fewer in number as the individual grows older. The erythema is still very pronounced and sharply limited in the boy and perhaps a little less marked than formerly in the girl. The ridges have flattened out a little in the girl so that the reticulated appearance,

while still very distinct, is not quite so pronounced as when the patient first came under observation.

HISTOPATHOLOGY

Tissue was obtained from both patients. It was removed by a cutaneous punch, under cocaine anesthesia, and each piece included a ridge, an atrophic area and a comedo. The tissue was fixed and prepared in accordance with the usual technic employed in Dr. Fordyce's clinic.[4] Serial sections were cut at about 6 microns. The routine stain was hematoxylin-eosin, but the van Gieson, Weigert and acid orcein stains were also employed.

Inasmuch as the histologic picture in both cases was identical the following description will answer for both patients.

Hair Follicles.—The most striking feature was the alterations in the hair follicles and the large number of cysts derived therefrom. The pathology was somewhat of a surprise. Clinically, with the exception of the few scattered comedones and horny plugs, there was no indication that the affection was so markedly follicular. Throughout the sections there were numerous large, acanthotic, enormously dilated follicles filled with horny material. The large follicles were so tortuous that with a few exceptions it was impossible to obtain a longitudinal section of more than a very small portion of any one follicle. On the other hand, numerous very small follicles were depicted throughout their entire length in a single section.

In many instances it was possible to trace or build up an entire follicle by running through the serials (Fig. 5). But this was not always so. Some of the follicles seemed to be composed of cell nests and cysts, some of which appeared to be completely isolated while others were connected by slender epithelial bridges. Hypothetically this phenomenon allows of two possible interpretations: (1) an anomaly of development giving rise to budding processes, these budding processes making abortive attempts to form hair follicles; (2) that the overdevelopment of the follicle produced a tortuosity, and the pressure of the marked hyperkeratosis eventually caused atrophy in places, giving rise to the isolated and slenderly connected cell nests and cysts.

That the disease affected the hair follicles early in their development was apparent from the fact that even the very small lanugo follicles showed a hyperkeratosis and some of them were considerably thickened, although none of the very small follicles were tortuous. In both the lanugo and in the large follicles the hyperkeratosis extended

4. Refer to Freeman's article on "Preparation of Skin Tissue for Microscopical Study," THE JOURNAL CUTAN. DIS., 1916, 34, p. 541.

down almost to the bulb. Hairs were present in both types of follicles. While the hairs in the large follicles were deviated from their normal path, there was not the twisting and tortuosity seen in monilethrix and keratosis pilaris.

In one or two instances a hair bulb and about a third of the follicle were found in the midcutis, lying parallel with the epidermis and in one section a hair bulb was turned almost completely around.

It was not uncommon to find two, three, and even four follicles uniting to form a single follicular orifice. In the upper cutis the follicles frequently anastomosed, sometimes solidly, at other times by narrow epithelial bridges. It is possible that this anastomosis was caused by the union of budding processes thrown out in an attempt to produce sebaceous glands. This, also, may explain the development of the "double comedones," several of which were found in both cases. In this connection it was noted that the sebaceous glands were not as well developed nor as numerous as one would expect to find them in the face of an individual 16 years of age. At times the "double comedones" involved only two follicles but in a few instances they were very large and three or four follicles entered into the peculiar formation (Figs. 7, 8 and 9).

Cysts.—All through the cutis—from the papillary layer down to the fat, were larger numbers of cysts and cell nests of varying size—some very small, others very large. Their general appearance and their distribution suggested, at first glance, some types of benign cystic epithelioma or trichoepithelioma (Fig. 9).

For the most part it could be ascertained, by studying the serial sections, that the cysts were simply cross and tangential sections through extremely tortuous hair follicles. At times, however, nothing but a slender connecting bridge could be discovered and in some instances they appeared to be completely isolated (Figs. 4, 11 and 12). While this isolation might have been secondary to pressure atrophy it is suggestive of a primary anomaly of development. And inasmuch as isolated cysts were found in the lowermost portion of the derma it might be assumed that they were formed from budding processes other than those involved in the production of sebaceous glands.

The larger cysts were composed of two or three layers of compressed epithelial cells. The lumen in some instances contained debris but as a rule the content was horn which was at times loosely deposited, at other times concentrically arranged with the formation of whorls. As these cysts were followed through the serials their walls became thicker and thicker until there was simply a mass of epithelium —a cell nest.

Vascular Changes.—The vessels and lymph spaces throughout the entire derma were dilated. This was most noticeable in the midcutis.

Here, in some sections, the dilatation was marked and many of the vessels contained red cells and coagulated serum. The walls of the blood vessels, including the endothelium, were swollen and in some instances the endothelial cells were detached. There was no hyperplasia of endothelium. In one section a blood vessel had undergone complete hyaline degeneration.

Infiltration.—In most of the sections the infiltration was mild to moderate, but in some places it was rather dense (Fig. 10). The infiltration was perivascular and was also conspicuous along the follicles, both the lanugo and adult follicles being involved. The infiltrate consisted of cells of the small round cell type. No plasma cells nor mast cells were encountered. The infiltration was most pronounced in the midcutis.

Connective Tissue.—There was considerable edema in places. It was most marked in the immediate vicinity of the vessels. Here the perivascular lymph spaces were widely dilated, the collagen had for the most part disappeared and its former site was occupied by the infiltrating cells. The same condition prevailed in the immediate neighborhood of some of the hair follicles.

Throughout the midcutis the collagenous bundles were swollen and separated and in places a granular change was noted. Edema and some granular degeneration was also noted in the upper part of the cutis. The papillary body, for the most part, consisted of a broad plate, due to the absence of the rete pegs. Of great interest was the tinctorial change in the collagen. With hematoxylin-eosin the connective tissue of the papillary body assumed a bluish color—a probable basic degeneration. In some sections this was very marked and extended down through the midcutis. In most sections this tinctorial change occurred only in the vicinity of the follicles while in the others it was scattered throughout the entire upper cutis. In places, particularly around the hair follicles, the collagen was very compact—dense, and showed a marked affinity for the acid stain. Finally, there was a definite retraction of the connective tissue. In some sections this feature was very marked, the derma being very narrow, so that the subcutaneous tissue and the coil glands were much closer to the epidermis than in the normal condition (Figs. 9 and 11).

Appendages.—The subcutaneous tissue was normal. The coil glands were somewhat dilated. One coil duct was found that was dilated and contained debris. Some of the orifices of the coil ducts were hyperkeratotic. The sebaceous glands were small numerically and in size, in the girl, as compared with the skin of the face of individuals of the same age. In the boy tiny sebaceous glands in an early stage of development were frequently seen. The glandular epithelium

appeared to be normal. The arrectores were edematous. The elastica was fairly well preserved. In a few places it was either fragmented or absent, but for the most part it was practically unchanged.

Epidermis.—There were no noteworthy changes in the epidermis. In the vicinity of the follicles it was markedly thickened, elsewhere it was thinned. There was no widespread hyperkeratosis—only in the follicular orifices. The rete pegs were conspicuous by their absence.

Comedones and Horny Plugs.—The comedones (black at the distal end and easily expressed) contained some fat. The horny plugs (grayish, and extracted with difficulty) contained very little, if any, fat. Cultural experiments were negative.

HISTOLOGIC RÉSUMÉ

Slightly atrophic epidermis with loss of rete pegs. Inflammation in the derma manifested by vascular and lymphatic dilatation, congestion, edema and perivascular and perifollicular infiltration of small round cells. Degenerative changes in the connective tissue ending in atrophy and retraction. Underdevelopment of the sebaceous glands and a marked overdevelopment of the hair follicles. Horn cysts derived from the hair follicles scattered throughout the cutis, some of which are connected to the hair follicle by only a slender epithelial bridge or are completely isolated.

Cause of the Atrophy.—There can be little doubt that some of the atrophy is due to degeneration of collagen. Whether this degeneration is secondary to the edema and circulatory disturbances caused by pressure, or whether it and the inflammation precedes the follicular changes, cannot be ascertained at the present moment. Degenerative changes were found in the ridges as well as in the depressed areas and it is possible that, later in life, the ridges will flatten out and the reticulated appearance become less marked. There is evidence which suggests the possibility that some of the depressions might be due to the very large "double comedones." These "double comedones" cause an enormous amount of pressure and undermine the epidermis, so that in the serial sections one frequently encounters small areas of skin that are completely isolated. Furthermore, when a depressed area is followed through the serials it is often found to be associated with a large "double comedo" (Figs. 7 and 8).

LITERATURE

A search of the literature has been made but very little has been found that has any interest in common with our cases. Undoubtedly there have been reports and perhaps even articles describing the condition that have been overlooked on account of misleading or unsuspected

titles. If any author has been overlooked we apologize for the omission and will be pleased to add the reference as an erratum. A few literary reports have been discovered in which the cases are similar if not identical to ours. They are as follows:

WHITFIELD (*Proc. Roy. Soc. Med.*, 1914, 7, p. 87) reports a case under the legend, "Case of Cutaneous Atrophy, with Comedo." The patient was a boy of 7, who presented an area of thin, white, atrophic skin on the left temporal region in which there were small pits many of which were plugged with comedones. This was said to have begun shortly after birth. There were similar areas under the chin. On the scalp there were two linear lesions consisting of baldness and comedones. Occasionally there was a little suppuration around the comedones. Whitfield expressed some comedones and was unable to detect acne bacilli but did identify the bottle bacillus.

PERNET (*Med. Press*, May 31, 1916) under the heading, "Atrophodermia Reticulata Symmetrica Faciei," reports a case which, in this connection, merits special attention. The patient was a girl, 12 years of age. She had had measles at the age of 4 after which the skin of the face remained rough until she was 11 years of age when the cheeks began to assume the appearance about to be described. (These facts were obtained from the patient's mother and should be interpreted accordingly.) There had never been any ulceration or pustules. No medicines had ever been applied to the face. The eruption was limited to the cheeks, was symmetrically distributed and roughly triangular in outline. To quote from Pernet: "The parts are slightly reddened and have a honeycombed appearance. On close examination with a lens a superficial atrophy of the skin can be made out. The picture is that of a fine network, the meshes of which form a raised, delicate tracery enclosing slightly depressed atrophic areas. At the borders of the patches small pinpoint depressions can be seen. The slight, blushy redness is due to a certain amount of telangiectasia here and there, especially about the margins of the affected areas. With the exception of a slight degree of xerosis about the legs, the patient's skin generally is good." Nothing is said about the presence of comedones. Pernet states that he has seen two or three such cases but he never recalls having seen the condition mentioned in the literature. A biopsy was not made.

HEIDINGSFELD (THE JOURNAL CUTAN. DIS., May, 1918, p. 120) under the heading, "Atrophia Maculosa Varioliformis Cutis" described the case of a man, aged 22, who presented numerous pitted depressions on both cheeks which exactly resembled the scarring following smallpox. The patient, however, had never had smallpox nor had there ever been any pustules, suppuration, comedones or anything that could account for the atrophy or scarring. There was no erythema and there were no subjective symptoms. The condition had started at the age of 16 and new atrophic areas were constantly forming. Heidingsfeld does not mention a reticulated appearance nor do his photographs show such an arrangement of the areas of atrophy. The pitted scars ranged in size from a pinhead to a split pea. A biopsy was not obtained.

UNNA (Histopathology, p. 1084) describes a single example of a condition that he called "Ulerythema Acneiforme." "On both cheeks of a young girl there appeared red, flat, somewhat elevated papules, inside of which comedones developed; the redness disappeared and the skin became white and scarlike. The process affected the lobes of both ears and it healed with an irregular epidermis and a branched, grooved scar on the border of the ear leaving behind large comedones in the lobules. At the border of the antitragi and on the cheeks, there was formed a peculiar superficial scarring without comedones which gave the skin a worm-eaten appearance. A number of peculiar, large comedones without any scarring, crossed the scalp from one ear to the other."

Histologically there was a generalized hyperkeratosis and acanthosis which, however, was especially marked near the hair follicles. There was consider-

able infiltration with small round cells, edema and dilatation of the vessels and lymph spaces. The connective tissue underwent atrophy so that the cutis was not as deep as normal. The hair follicles contained horny plugs; the sebaceous glands were atrophic. The coil glands were normal. There was no change in the elastic tissue.

Thibierge (article on Acne in *La pratique dermatologique*) mentions a condition which he calls "acne vermoullante." The affection consists of grouped comedones in the cheeks of children; when these closely crowded comedones are removed little holes are left, and there is produced an appearance somewhat like a piece of wood that is worm-eaten.

COMPARISON AND DIFFERENTIATION

Unna's case possessed features that suggest the possibility that ulerythema acneiforme and folliculitis ulerythematosa reticulata are the same disease or belong in the same group. Clinically his case differed from ours in the presence of red papules and in the fact that the erythema disappeared with the papules. Also, the location was somewhat different. On clinical grounds, alone, the two conditions cannot be separated.

Histologically there were no horn cysts or double comedones. There was atrophy of the connective tissue but this atrophy followed the edema and was not due to degeneration of the collagen as in our cases. Unna found a generalized acanthosis and hyperkeratosis; we did not.

We are unable to conclude whether or not the affection described by Unna is the same as that shown in our cases. It is exceedingly difficult to visualize clinical and histopathologic descriptions and it is unfortunate that Unna did not publish both clinical and histologic illustrations. There are important differences in the details of the two affections but in spite of this we are disinclined to separate the two until a large number of cases have been carefully studied.

Whitehouse's case we regard as being identical with ours. The comparison, of course, is clinical as no histologic study was made.

Pernet's case is probably identical with ours. There was the same location, erythema and reticulated atrophy. Pernet does not mention the presence of comedones nor horny follicular plugs. He noted telangiectasia—we did not. Unfortunately a histologic examination was not made. A clinical photograph was published but it was useless except to demonstrate the location of the eruption.

Without further details we are unable to identify Heidingsfeld's case as one of folliculitis erythematosa reticulata although it may prove to be the same. Inasmuch as no biopsy was made the comparison must be on clinical grounds. Heidingsfeld accentuates the varioliform appearance of the scarring and the photographs depict a pitted scarring suggestive of smallpox. This type of scarring was not encountered in our cases, nor in the cases published by Whitehouse, Unna and

Pernet. Furthermore, there was no erythema nor were there any comedones or horny plugs in Heidingsfeld's case. Finally, the affection began in early adult or late adolescent life, while the eruption in our cases began in childhood. The atrophy in Heidingsfeld's case was apparently primary while in our cases it was secondary.

WHITFIELD'S case was quite different from ours. It presented features suggestive of the so-called acneiform nevus.

THIBIERGE'S acne vermoullante probably has nothing in common with our cases. The same may be said regarding the grouped comedones of children described by Thin and by Crocker, scar comedones, and the double comedones described by Dumesnil.

TAENZER'S *ulerythema orphryogenes* (Unna, Histopathology, p. 1086) always begins in the eyebrows and is usually limited to these regions. Occasionally it spreads to the forehead, scalp, cheeks and even the body. It begins in early life. In the milder types it is merely a persistent erythema with horny plugs in the follicular orifices, and follicular papules. The hairs are brittle, broken-off, and finally cease to grow. On the eybrows and on the upper arms the follicular element predominates but on the forehead, cheeks and neck, the interfollicular erythema is the most conspicuous feature. The disease leads to follicular and interfollicular atrophy in the form of small, scarlike depressions.

Histologically Unna found considerable dilatation of the vessels and lymph spaces near the follicles, but very little infiltration—a few mast cells were encountered. The connective tissue showed degenerative changes and ultimately became atrophic. The hair follicles were markedly hyperkeratotic, the horny plug extending down to the lower third of the follicle. The follicles were spirally twisted. Unna speaks of horn cysts developing in the upper part of the follicle as in keratosis pilaris but he did not encounter any isolated or deep-seated horn cysts. He found little if any alteration in the elastica, slight changes in the coil glands and a practically normal epidermis.

The differential features are fairly well marked. The difference in location, the predilection for hairy regions, the presence of follicular papules and the large number of follicular plugs, occasional scaliness and pustulation, absence of reticulated atrophy and comedones, and the comparatively slight changes in the follicular histopathology serve to differentiate ulerythema orphryogenes from folliculitis ulerythematosa reticulata although, indeed, they may be allied conditions.

Keratosis pilaris, especially when erythematous and ending in atrophy, presents histologic features that to some extent resemble those found in our cases. The same may be said of dermatitis papillaris capillitii, folliculitis decalvans, ulerythema sycosiforme, lupus erythema-

tosus, Darier's disease, pityriasis rubra pilaris, monilethrix, favus, hyperkeratotic and acneiform nevi and, in fact, most of the chronic follicular disorders. But all of these diseases can be readily differentiated from folliculitis ulerythematosa reticulata both clinically and histologically.

TERMINOLOGY—CLASSIFICATION

It would be preferable to classify the disease in reference to its etiology, but at the present moment this is impossible. One of our patients had pulmonary tuberculosis; the other gave a positive von Pirquet test. Histologically and clinically there was nothing about the eruption suggestive of tuberculosis. Tuberculosis as a direct or indirect causative factor cannot be seriously considered at the present moment. Histologically there is evidence of a faulty development of the hair follicles and sebaceous glands, with a secondary inflammation, degeneration and atrophy due, possibly, to pressure. If the disease can be regarded in this light, then in a broad sense, we are dealing with a nevus—at least with an anomaly of development; a congenital follicular keratoderma. On the other hand it is certain that some pathologists will look on the inflammation as primary, due possibly to a toxic substance acting directly on the vessels or to bacteria in the hair follicles. In this event the follicular changes, degeneration and atrophy would be secondary to the inflammation. We are inclined to favor the first view.

There undoubtedly will be a controversy concerning a suitable title for the affection. We have selected the term folliculitis ulerythematosa reticulata because histologically especially and also clinically, the condition is a folliculitis. The word ulerythema, meaning erythema and scarring, is clinically descriptive. The word reticulation is added because this reticulated appearance apparently constitutes an essential clinical feature. To employ the term ulerythema generically (ulerythema reticulatum, for instance) would automatically group the disease with two other distinct entities, namely, ulerythema sycosiforme (lupoid sycosis) and ulerythema orphryogenes. If, for any reason, the term ulerythema is objectionable, the title can be changed to folliculitis atrophicans reticulata. The legend reticulated atrophy (atrophoderma reticulatum, employed by MacKee) is objectionable because it places the affection among the primary atrophies.

Pernet's designation, atrophodermia reticulata symmetrica faciei also groups the disease with the primary atrophies and for this reason it is objectionable. The same may be said of Heidingsfeld's title, assuming that the disease described by him belongs in the same group. In addition, the adjectives macular and varioliform do not describe the clinical features of our cases.

Inasmuch as it is possible that the disease belongs in the large group comprising the congenital keratodermata, the term keratoderma follicular atrophicum might be appropriate.

Both of these cases were carefully studied, clinically and histologically, and they were identical in every respect. The cases reported by Whitehouse and by Pernet were clinically identical (we assume that these cases had comedones or follicular plugs). Unna's case was similar to ours. This evidence, especially the fact that our two cases were identical in all their clinical and histologic features, warrants the belief that we are dealing with a clinical entity. It is too soon to formulate all the essential characteristics of this entity, but while waiting for future reports based on the study of new examples of the affection, the following features may be considered as essential.

CLINICAL

1. Symmetrical distribution on the cheeks.
2. Appearance in childhood; slow evolution.
3. Erythema, which may disappear in adult life.
4. Comedones and horny follicular plugs, which may disappear in adult life.
5. Reticulated atrophy, which may become less marked in adult life.
6. Absence of papules, pustules, scaliness or seborrhea.

HISTOLOGIC

1. Acanthotic, hyperkeratotic, tortuous hair follicles.
2. Horn cysts throughout the derma, derived from the hair follicles.
3. Inflammation.
4. Degeneration and retraction of connective tissue.
5. Underdevelopment of sebaceous glands.
6. Unimportant changes in the epidermis.

TREATMENT

Local stimulating applications such as lotio alba, sulphur ointment, salicylic acid, etc., had no effect. Ultraviolet light accomplished nothing. Arsenic internally was useless. Both patients are now under roentgen-ray treatment, fractional doses (H ⅛ B 10, skin distance, unfiltered) being applied once weekly.

We are greatly indebted to Drs. Walter J. Heimann and David L. Satenstein for many valuable suggestions.

EXPLANATION OF ILLUSTRATIONS

Fig. 1 (Case 1).—Showing the network or reticulated appearance produced by the areas of atrophy.

Fig. 2 (Case 1).—Opposite side of the face, showing the absolute symmetry of the eruption.

Fig. 3 (Case 2).—Compare with Case 1; identical clinical appearance. Note the comedones or follicular plugs and the shiny ridges.

Fig. 4 (Case 1).—Zeiss-Planar obj. 20 mm. The hair follicle F shows four budding processes. The upper ones (S) are evolving sebaceous glands. A few sebaceous gland cells are seen at A. Further on in the serial sections the sebaceous cells become more numerous. Nowhere is there any evidence of keratinization, degeneration or cyst formation. The lower budding processes C, when studied serially, show keratinization of the epithelial cells and they both become born cysts. Nowhere in the serials of this follicle is the connection between the cyst and the follicle any heavier than at B. The photograph also shows a number of large cysts in the lower part of the derma, demonstrating that the lowermost portions of the follicles are involved.

Fig. 5 (Case 2).—Zeiss-Planar obj. 20 mm. A vertical section of a very tortuous follicle; illustrating how many of the cysts are produced. Note the infiltration and dilated lymph spaces.

Fig. 6 (Case 1).—Zeiss-Planar obj. 20 mm. Showing a follicle that has been deformed by pressure from a cyst. The serial sections show that this cyst is derived from another follicle.

Fig. 7 (Case 1).—Zeiss-Planar obj. 35 mm. Shows a "double comedo" involving at least four hair follicles. The photograph shows a connection with follicles A and C. The serials show another follicle at B and at D. This comedo or horny plug was followed through ninety sections of about 6 microns each. The loss of tissue at C and D might be one explanation for the formation of the depressed areas. In another section, for instance, showing a widely dilated follicular orifice at B, there remains, between B and C a small island of skin, which from lack of nourishment and from pressure may undergo atrophy and may even disappear. It is possible that this has already happened between C and D.

Fig. 8 (Case 1).—Zeiss-Planar obj. 35 mm. Showing involvement of the upper half of hair follicle. This follicle joins another at A forming a "double comedo" with an isolated area of skin between A and B. D is a ridge and C is a depressed area. As this depressed area is followed through the serials a large "double comedo" is encountered which joins hands with the one shown in this illustration.

Fig. 9 (Case 2).—Zeiss-Planar obj. 35 mm. Shows numerous cysts and cell nests throughout the derma. The picture is not unlike that seen in some examples of multiple benign cystic epithelioma or trichoepithelioma. Most of these cell nests and cysts are shown to be part of hair follicles when the serial sections are studied, but some of them are apparently isolated because no connection can be demonstrated. Most but not all of the cell nests are found to be cysts when they are followed through the serials. It will be noted that the cutis is shallow—the fat and the coil glands are nearer the epidermis than in the normal condition. There is considerable infiltration.

Fig. 10 (Case 2).—Zeiss-Planar obj. 35 mm. Shows fairly marked infiltration, numerous cysts and cell nests and anastomosis of follicles near the epidermis.

Fig. 11 (Case 2).—Zeiss-Planar obj. 35 mm. Note high position of coil glands at A. The cyst at B apparently developed in a budding process intended for a sebaceous gland. The bridge connecting it to the follicle quickly disappears if followed in either direction through the serials.

Fig. 12 (Case 2).—Zeiss-Planar obj. 35 mm. The group of cysts at A could not be definitely connected with a hair follicle.

Fig. 13 (Case 2).—Zeiss-Planar obj. 20 mm. A cyst which is part of a "double comedo" as shown in Figs. 14, 15, 16 and 17.

Figs. 13 to 17 represent serial sections of a "double comedo." Fig. 16 shows an isolated island of skin, undermined by the "comedo."

Figure 1

Figure 2

Figure 3

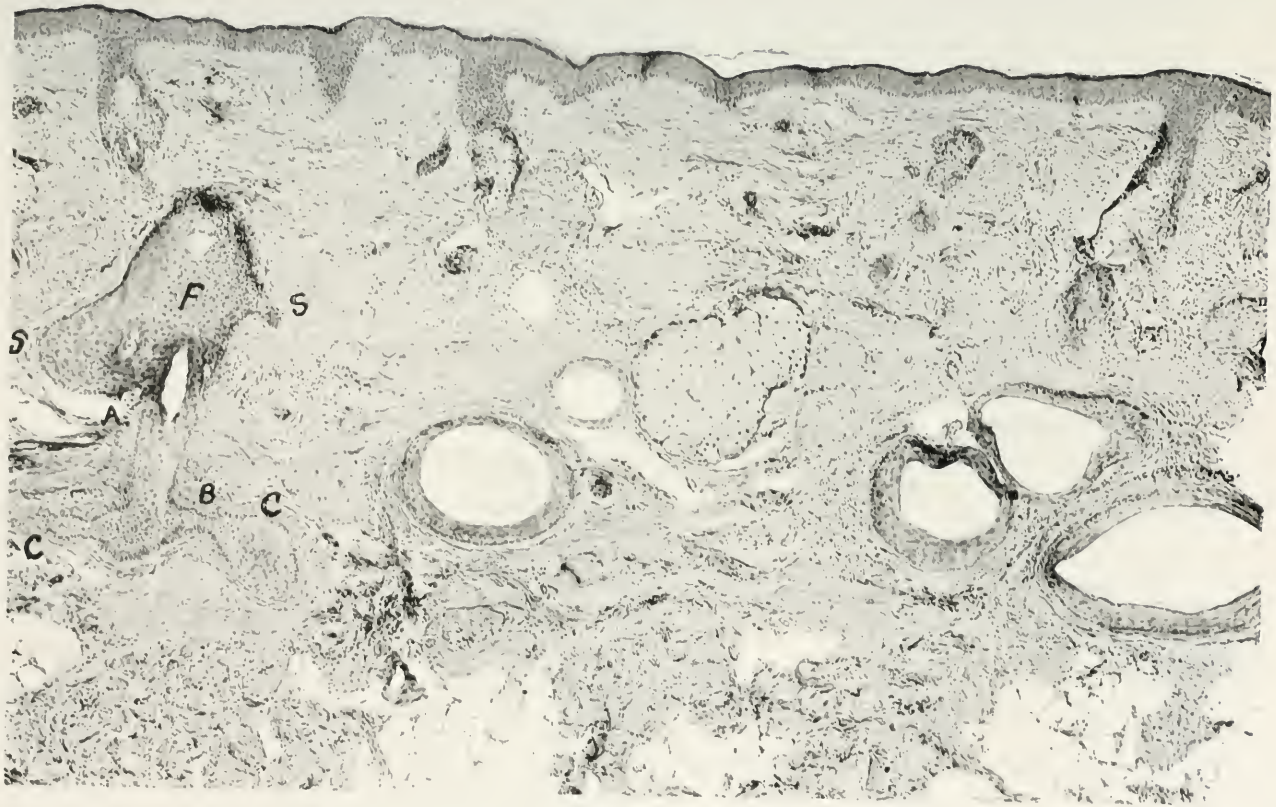

Figure 4

Figure 5

Figure 6

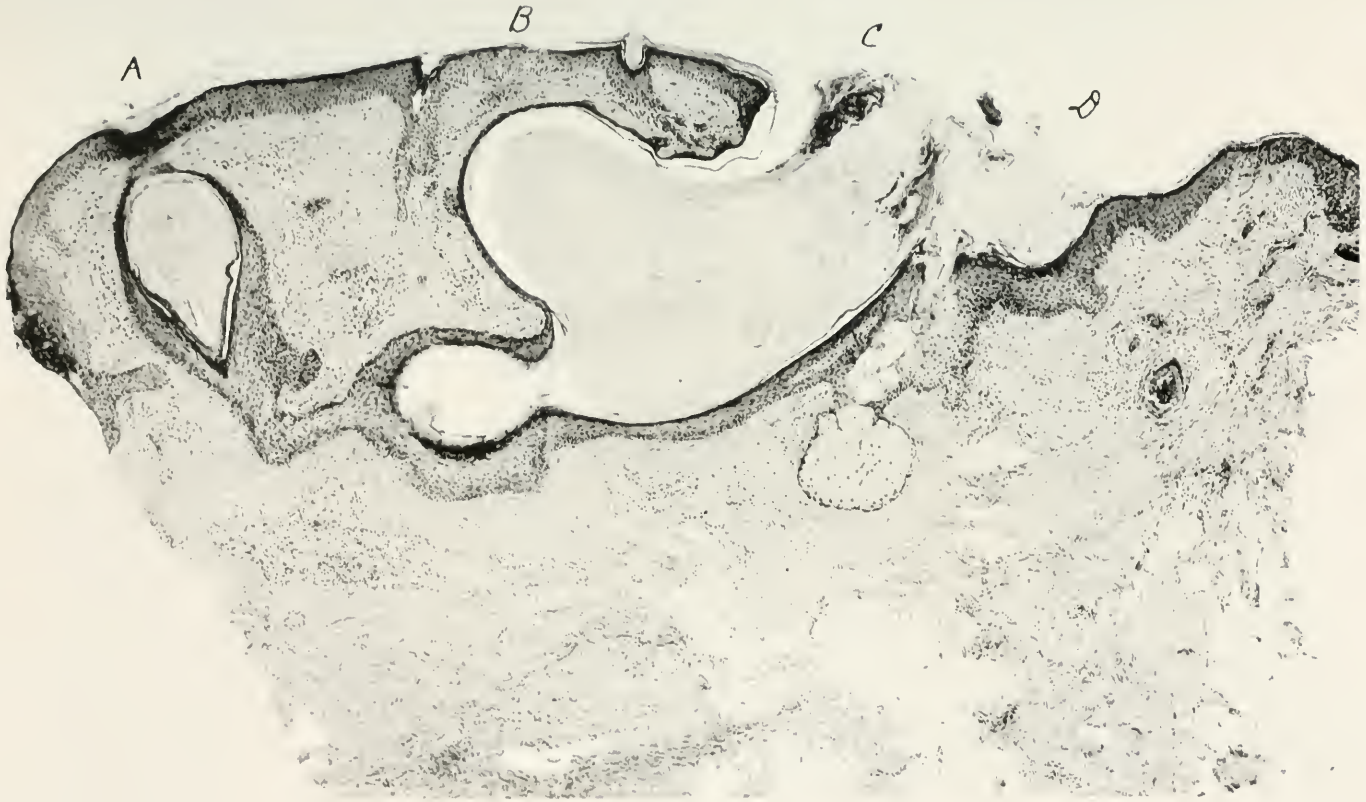

Figure 7

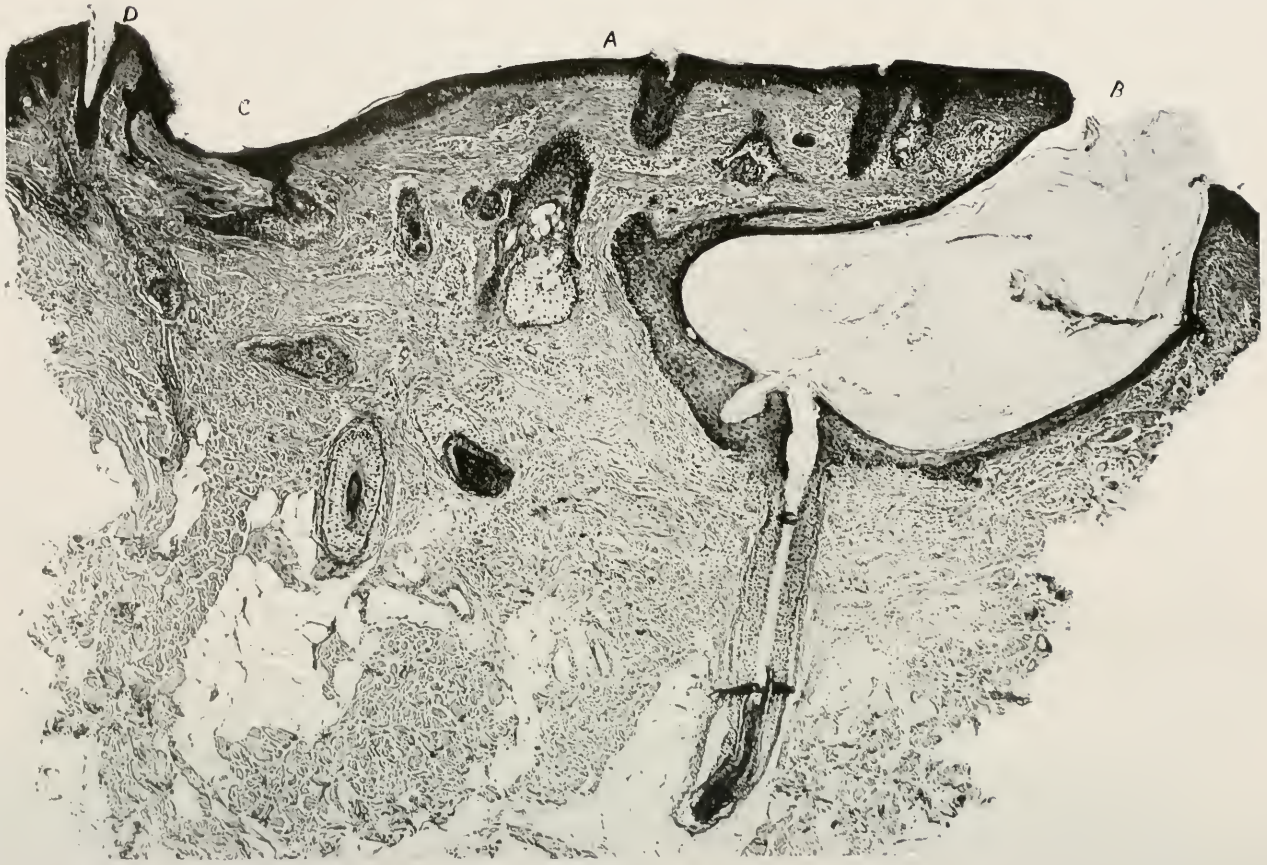

Figure 8

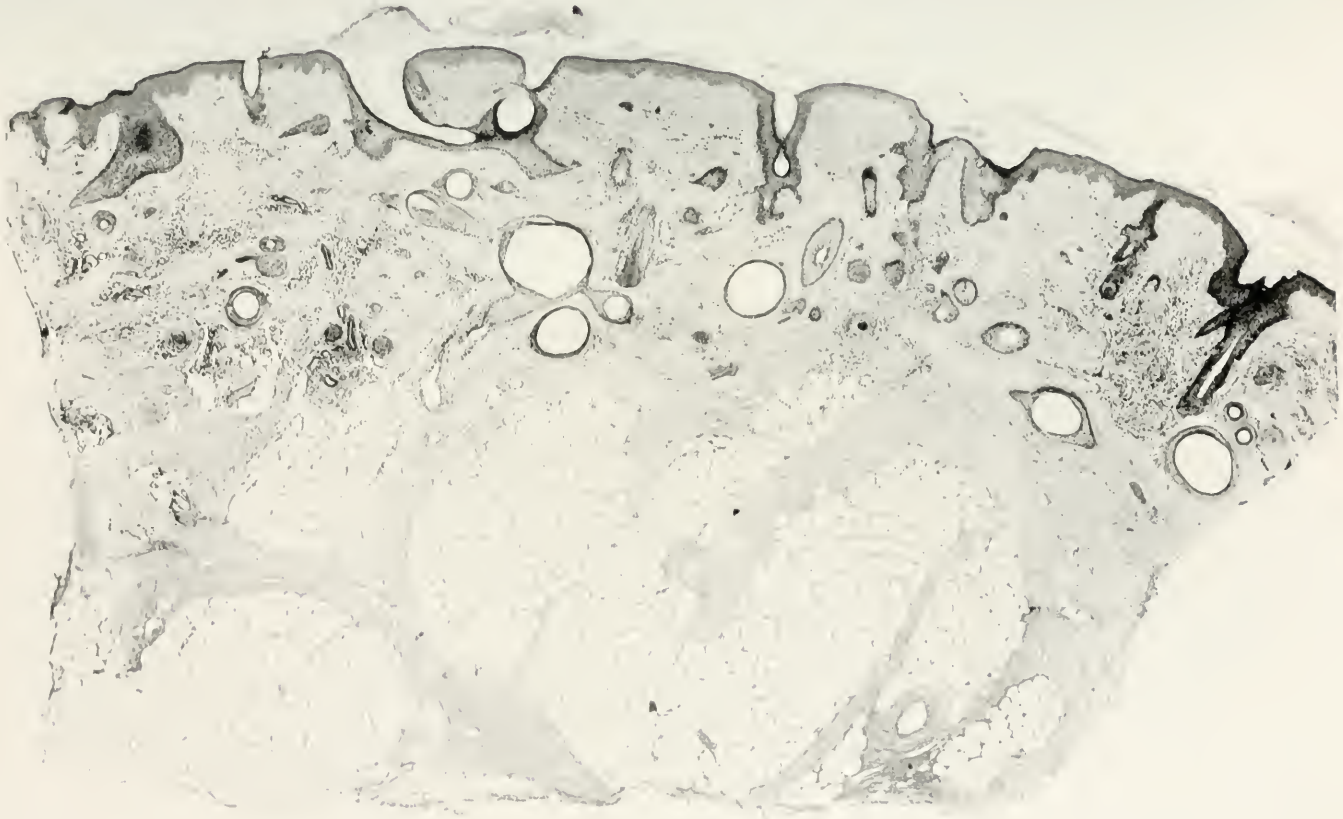

Figure 9

Figure 10

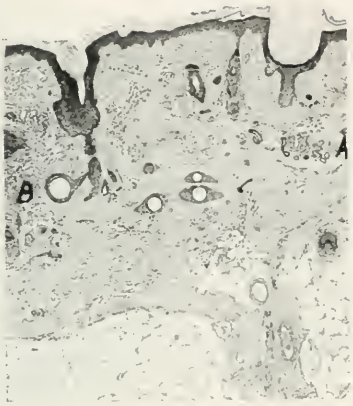

Figure 11

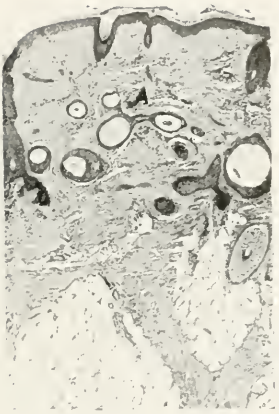

Figure 12

Figure 13

Figure 14

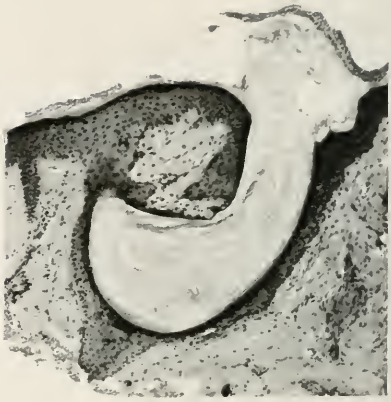

Figure 15

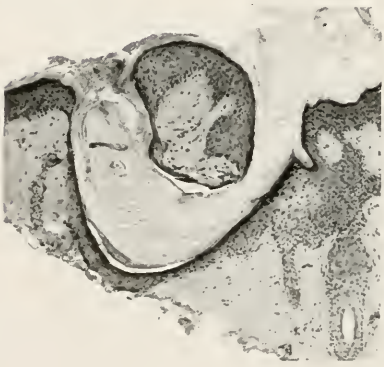

Figure 16

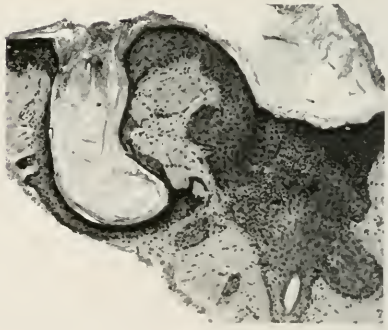

Figure 17

Clinical Report

CHEILITIS EXFOLIATIVA*

DOUGLASS W. MONTGOMERY, M.D.
SAN FRANCISCO

Cheilitis exfoliativa is a scaly condition of the lips. It is a manifestation of seborrheic dermatitis, and one of the most obstinate of them. In lighter grades it is not infrequent and may pass unnoticed by the patient. It may, however, be most tantalizing. It sometimes consists of a line of small slightly depressed facets strung along the red of the lip about a millimeter internal to the mucocutaneous border in the line of the opening of the sebaceous glands which lubricate the lips. The following report is a good example of a more than ordinarily severe case of this condition.

REPORT OF CASE

History.—A Scotch woman, a seamstress, aged 36, consulted me March 17, 1917, for an affection on the red of the upper lip which had been troubling her for the past seven years.

There was no history of tuberculosis in the family; the father died of valvular disease of the heart, the mother of pneumonia. A sister was living and well, and there were no other immediate relatives.

Examination.—A continuous, thick, translucent epithelial plate, like dried collodion, detached itself about every five days from a long, irregularly bordered, sunken surface, which occupied the middle two-thirds of the red of the upper lip. On turning the lip out, yellow miliary bodies could be seen scattered along the upper or anterior edge of this affected area. The whole upper lip was too prominent and had consequently a snoutlike look so frequently seen in infiltrations in this area. In addition to the deformity, the desquamation of the epithelial flake had become most tormenting as the patient was continually trying to loosen it with the lip and tongue. The patient also feared the condition might become malignant.

Besides the affection of the lip, the patient had long suffered from psoriasis, but not of a severe type. She had twice had alopecia areata. It is difficult to say if the psoriasis bore any relationship to the labial affection. For those who consider psoriasis and possibly alopecia areata as seborrheids, a connection would be assumed.

Constitutionally the patient was not in good condition. She had a heavily coated tongue, a tainted breath, a splashing, dilated stomach, and like most seamstresses, she suffered from constipation. She was anemic—her hemoglobin registered 76 per cent. on the Dare instrument. Her complexion was bad. She had a dirty yellow discoloration about the mouth, and her gums were pale.

TREATMENT AND RESULTS

Previous to consulting me she had had abundant and energetic treatment of the lip with caustics, roentgen rays and CO_2 snow, but without any amelioration.

March 30, 1917, a radium plaque the size of a 10-cent piece, but containing a heavy charge of radium — 24.23 mg.— screened with

* Received for publication Jan. 10, 1918.

0.01 mm. aluminum, was applied for ten minutes. In a few days this caused a reaction on the mucous membrane posterior to the diseased patch — the patch itself with its thick covering was evidently very resistant.

Eight days afterward a 25 mg. radium capsule, shielded with 0.35 mm. silver and 0.75 mm. brass, was laid along the lesion over the crust for ten minutes. This in three days brought on a violent radium reaction with swelling of the lip. By the middle of May this reaction had subsided, and this was the first time in seven years that the center of the lip had stopped peeling. The center was now soft and smooth, and the infiltration had disappeared. Both ends of the lesion and a fine line along the posterior edge in the center were still desquamating a little.

June 16, 1917, a radium plaque, 11 mg. strength, screened with 0.05 mm. aluminum, was applied for twenty minutes, and again, screened with 0.10 mm. aluminum, for fifteen minutes. A similar application was made, Sept. 8, 1917. By Nov. 17, 1917, there was still a brown, dry, linear crust at the junction of the exposed red of the upper lip and the moist mucous membrane of the mouth. By Dec. 29, 1917, there were two minute, loosely adherent, linear crusts at the right extremity of the original lesion. This was cleared off by lightly wiping with trichloracetic acid. The whole lip was soft and flexible, and the great prominence and rolled out appearance of the upper lip had disappeared.

COMMENT

I do not believe this trouble could have been cleared up with any other treatment than radium, and it required a good dose of this remedy to obtain results. Roentgen rays, the nearest approach to radium, had already been tried by a competent man without effect.

In regard to penetration, there is no doubt that the gamma rays of radium are much more powerful than roentgen rays, and probably penetrative ability was of determining influence in the present case. It will be remembered that the first radium plaque applied was a very strong one, but it had no appreciable effect on the heavily crusted part of the lesion. It affected only the thin mucous membrane behind the lesion. The next application was a 25 mg. tube laid along the crust. This, together with a remaining effect of the former plaque, gave rise to a violent reaction. After the subsidence of this reaction the lesion never returned to its old condition of dry, persistent quiescence.

One of the remarkable circumstances of the case is the normal scarless condition of the lip after the severe treatments it received with roentgen rays, CO_2 snow and radium.

Society Transactions

MANHATTAN DERMATOLOGICAL SOCIETY

Regular Meetings, Oct. 9, and Nov. 13, 1917

Fred Wise, M.D., *Chairman*

LEPROSY IN TWO BROTHERS. Presented by Dr. Gottheil.

The patients, Charles and Tony M., aged 13 and 15 years, respectively, showed the same disease. The father was living and well, but the mother had died of leprosy. There were three other brothers, aged 16, 17 and 21, who were apparently healthy. Charles was born in New Jersey and Tony in Italy. The exhibitor said it was an interesting point that one of the brothers had first been brought to the City Hospital, and was an inmate for some surgical condition. He said they lived as poor Italians did, in one or two small rooms in a tenement, but the other brothers seemed well. The younger one had nodules appearing on the face and both had anesthetic areas.

DISCUSSION

Dr. Wise said he would like to ask Dr. Gottheil what kind of treatment he was instituting in these cases.

Dr. Gottheil said he was treating these cases with chaulmoogra oil by injection, although they had used it in all forms so much, that they were getting hopeless about it. He would like to know if any one had anything else to suggest.

Dr. Satenstein said, as the exhibitor stated that these two boys had acquired the disease in this country, he would like to know if any precautions had been taken to prevent the possible infection of other children in the district in which these boys grew up.

FAVUS. Presented by Dr. Gottheil.

The patient was a small boy, in whom microscopic examination showed a typical case of favus, which was very marked, the entire head being covered. Nothing was done for the boy but washing with green soap, when the exhibitor went on his vacation. When he returned he found no fungous growth on the patient's head. The condition had been left alone for two months, and he had had no other treatment except a 10 per cent. sulphur ointment. Another microscopic examination had been made and nothing could be found in either the hairs or scales.

DISCUSSION

Dr. MacKee said that he had never seen a case of spontaneous arrest of favus without atrophy and permanent alopecia. The fact that the disease had lasted several years without producing either of these features and because it had disappeared at the age of puberty, made one think very strongly of tinea tonsurans. The speaker said he was unwilling to place much importance on the microscopic findings, because it was so difficult to differentiate without the aid of cultures. The fact, however, that a diagnosis of favus had been based on typical clinical features, and by our very best men, would make it appear that we were really dealing with a very unusual result in a case of favus.

ERYTHEMA PERSTANS. Presented by Dr. Gottheil.

The patient was a man, aged 31, born in Madeira. The history was unimportant, except that he had a chancre five or six years previously. He came

into the hospital with a ready-made diagnosis of lepra and was sent from Bellevue Hospital, where that diagnosis had been made, and also at the German Hospital. He presented, when he came in, a peculiar eruption of large, indefinite, pink masses, which were on the forehead, face, cheeks and body. His history was that three years ago he had an attack of chills and fever and then got better. The patches remained a number of months and then finally disappeared. He was in fairly good shape until the disease was discovered, when he applied for a license as cook. Then the diagnosis, with which he came to the hospital, was made. The patient was at the City Hospital for four weeks, during which time the patches had almost disappeared. Careful examination had been made of the scrapings and of the biopsy, by the pathologist at the City Hospital, and the diagnosis was absolutely not lepra, and no bacilli had been found anywhere. The speaker said he hesitated about the diagnosis of leprosy and thought it some form of erythema perstans.

DISCUSSION

DR. SATENSTEIN said there was a possibility of two conditions, sarcoid or mycosis fungoides. The clinical history, with the description of the tissue, presence of granulomatous nodules, containing giant cells, was very suggestive of sarcoid. The clinical course, with the presence of itching, might indicate mycosis fungoides. Although the enlargement of the ulnar nerves had to be taken into consideration, the speaker did not think it leprosy, and was in favor of sarcoid.

DR. MACKEE said that on a superficial clinical observation one might think of leprosy, mycosis fungoides, pityriasis in plaques and sarcoid. Leprosy could be ruled out on account of the absence of anesthesia and the absence of the lepra bacillus. Pityriasis in plaques could be excluded because the lesions were not permanent and because there was no scaliness. He would not care to rule out mycosis fungoides clinically, although there should be more pruritus. Histologically, however, the findings were in favor of sarcoid and inasmuch as the clinical appearance was not against this disease, sarcoid was the most likely diagnosis.

PAPULO-NECROTIC TUBERCULID. Presented by DR. BECHET.

The patient, a young woman, from the service of Dr. Trimble, stated that the disease began on the face, one and one-half years previously. It had been present on the arms for nine months. On the arms she presented for examination a considerable number of indurated granuloma-like lesions, some undergoing central necrosis. Several variola-like scars from former lesions were scattered among the active ones. On the face, rather symmetrically grouped, were a large number of small, bright red papules and nodules, a few of which contained necrotic centers. The eruption had improved since its inception.

DISCUSSION

DR. WISE said this was an unusual combination of what was known as acnitis of the face and typical papulonecrotic tuberculid of the arms. Both eruptions were probably caused by identical toxins circulating in the blood.

DR. MOUNT said he thought a much better term for the whole group of so-called tuberculids would be necrotic granuloma.

DR. BECHET said that he considered the eruption on the arms and face as identical. The lesions on the face were nodular, not papular, and some of them were undergoing early central softening.

CASE FOR DIAGNOSIS. Presented by DR. BECHET.

The patient, a young adult woman from the service of Dr. Trimble, stated that the disease began one year previously. In the space of that time she had four recurrent attacks, the present one beginning two months previously. The

lesions were confined entirely to the oral mucous membrane. She presented for examination a crusted, macerated and eroded condition, covering most of the lips, and inner surface of the cheeks. The lips were swollen, and covered with heaped up, drying serum. While no bullae were seen, the eruption presented all the earmarks of a resolving bullous outbreak. The condition had improved considerably since it was first observed. The Wassermann reaction was negative. The patient had two children, living and well, and three miscarriages.

DISCUSSION

DR. ROSEN made the diagnosis of pemphigus. The patient presented a vesico-bullous eruption on the inner surfaces of both cheeks, lips and roof of the mouth. Similar lesions were present in the vagina. Cases came under his observation in which lesions similar to these were present for a year or more, without any eruption on the body, then finally ending with an acute exacerbation and a generalized pemphigoid toxemia.

DR. WISE said he agreed with the last speaker, that this was probably a case of pemphigus, but that he was not sure. In some of these cases it was practically impossible to state whether they would turn out pemphigus or bullous erythema multiforme. He said the patient would have to be watched to determine the actual state of affairs.

DR. MACKEE said he would urge in this case that the speaker search the patient for a focus of infection.

DR. BECHET said that a dentist had just completed an examination of the patient's teeth and gums, and gave it as his opinion that the condition of the teeth played no causative rôle in the eruption. As far as the diagnosis of erythema bullosum was concerned, he thought that with so many recurrent attacks she would have some lesions elsewhere, if it were this disease. He concurred in the opinion that the condition would later develop into pemphigus.

FIBROLYMPHANGIOMA OF THE RIGHT THIGH AND LABIUM MAJUS. Presented by DR. WEISS.

The patient was an adult woman. The exhibitor said that the case he presented had very much in common with Stelwagon's case, illustrated in his book (Diseases of the Skin, 1905, p. 628). He said there were numerous superficial deep-seated lymphatic dilatations, some of them assuming, especially the deeper seated ones, the form of cysts with fibromatous walls. Some of them were almost translucent, easily compressible. The overlying skin in some became thinned, was of a purplish or yellowish color and occasionally broke through and discharged, jetlike, a tablespoonful or more of lymphatic fluid. The speaker said the subject of lymphangioma was yet a much undecided question. It might begin with a lymphectasia, causing a stagnation in the lymph flow, producing a lymph varix or several such varices. Some of these lymphatic dilatations formed cystic growths and their walls showed fibromatous organization, and they showed an association of lymph stasis vessels and a fibromatous tumor formation, so-called fibro-lymphangioma. There could be seen also simple fibromatous, lymphangiomatous lesions on the right labium majus, which showed an elephantiasic thickening, as did also the thigh itself.

The exhibitor said that this woman underwent an operation for hypertrophy of the right labium majus. Allegedly a herniotomy was performed. Soon after the operation numerous lymphectatic lesions, in form of different sized, compressible, cystic growths, with consequent thickening of the thigh, appeared. The speaker mentioned the well known fact that after radical operation of the lymph glands of the groin, lymphangiectasis, with elephantiasic hypertrophy of the limb would set in. In this case, the elephantiasis of the right thigh and the lymphangiomas promptly followed the operation. The process was of two years' standing, and except for the inconvenience of copious, jetlike discharge

of lymphatic fluid, caused no other discomfort. However, the patient was quite anemic.

FIBROCARCINOMA OF THE BREAST. Presented by DR. PAROUNAGIAN.

The patient, Mrs. F., was 46 years of age. In November, 1916, she had a swelling of the right breast. She had consulted two prominent surgeons. One of them thought the swelling was due to a minor injury, the result of pricking of her index finger with a pin two weeks before. However, swelling persisted and after consulting several other surgeons, operation was advised and performed. The report of the pathologist was "fibrocarcinoma" or "scirrhous cancer." The operation was radical and performed in December, 1916. About five weeks after the operation, about ten or twelve exposures of the roentgen rays were given over the operated area. Shortly after that the skin broke down and a number of superficial eroded patches appeared at the site of the operation. These lesions did not yield to the various applications which were tried, namely, aristol, bismuth, etc.

It might be stated that about one year prior, she was infected with syphilis by her husband. The condition was in the chancre stage and was promptly treated with five salvarsan and several mercury injections. The patient did not manifest any lesions or symptoms and her Wassermann reactions were negative, even the one made a week before presentation.

Description of the Lesion: The small eroded patches which appeared originally, coalesced and formed one large patch covering the affected breast. The surface was covered with seropurulent exudate. The border of the patch was defined with a ribbonlike purplish erythema; the chains of lymphatics above the clavicle and cervical regions were markedly swollen and somewhat painful.

The speaker was inclined at first to think it a roentgen-ray dermatitis. He had Dr. Geyser see the case some weeks ago and his opinion was both roentgen-ray dermatitis and carcinoma. The case was presented for an opinion as well as for therapeutic suggestions.

DISCUSSION

DR. GOTTHEIL said he thought it was a radiodermatitis and carcinoma. It might be a recurrent carcinoma over the breast, but it looked like a radiodermatitic carcinoma.

DR. GEYSER said he agreed with a diagnosis of radiodermatitic carcinoma. He thought the patient was suffering more from the radiodermatitis grafted on a carcinomatous base than from the carcinoma.

DR. MACKEE said he disagreed with the previous speakers and thought it a case of cancer en cuirasse. All around the excoriated area there was a redness, but this was not an erythema, but a superficial lymphangitis. The redness could be seen in radiating bands. The skin of the entire breast was hard. The speaker thought that the excoriation, also, was a part of the lymphangitis. He saw no evidence of radiodermatitis.

DR. OULMANN said the condition seemed to him more a carcinomatous metastasis. He called attention to some small lymph nodes starting in the upper part. The superficial excoriation, on large surfaces, he had occasion to observe, even when no roentgen-ray treatment was given. He did not think that a radiodermatitis was the main factor in the condition.

DR. WISE said he would like to ask how long after the last exposure the denudation of epithelium appeared, and whether such a condition of denuded skin was commonly seen in cancer en cuirasse.

DR. MACKEE said if that were roentgen-ray dermatitis there would be deeper necrosis. If this were a radiodermatitis, it was of second degree, and a second degree burn would not last so long. He did not think surgical intervention justified in this case. It was absolutely hopeless.

TUBERCULOSIS VERRUCOSA CUTIS. Presented by DR. PAROUNAGIAN.

The patient, Miss L., aged 50, was born in the United States and a stenographer by occupation. She was presented on account of a lesion over the right eyebrow, the duration of which was two years. The family history was good; the father, aged 89, was living and the mother had died at 68 of pneumonia. There was one brother and sister, both living and in good health. As stated, the lesion was situated over the right eyebrow, the size was about 1½ inches in diameter, dark brownish, slightly elevated, and the surface was rough, rather warty in appearance. The patient was intelligent and stated that there was nothing there up to two years ago, and that the lesion was growing rapidly. She complained of no pain or itching.

DISCUSSION

DR. WALLHAUSER said he was inclined to the diagnosis of epithelioma on account of the history of slow extension and waxy, sharply defined border, presented on the inner side of the lesion.

DR. WISE said he would make a diagnosis of ordinary pigmented nevus, possibly so-called nevus sebacei. He saw no epithelioma and did not think it would be shown on microscopic examination. He considered the patient's history in this kind of condition negative.

DR. MACKEE said that the lesion was suggestive of the nevoid type of senile or seborrheic wart that was frequently seen on the back. The lesion would in time probably develop into a buttonlike type of basal cell epithelioma.

DR. BECHET said that he had not noticed a raised border. He thought it was simply a verrucous nevus. The diagnosis of malignancy had not occurred to him.

DR. SATENSTEIN said the patient had stated the lesion was rapidly growing larger. At one edge the lesion was somewhat infiltrated. The speaker said it was quite possible there was a tuberculous origin in it. He would not accept the diagnosis of simple nevus if he knew the lesion was growing and was in favor of senile keratosis with a possible beginning malignant degeneration or of some tuberculous nature.

DR. PAROUNAGIAN, in closing the discussion, stated that when he first saw the patient about two weeks previously, he considered two diagnoses. One was nevus, the other epithelioma. He excluded the first on account of absence of any lesion there prior to two years. Epithelioma, because there was no pain, no pearly borders, and no induration. Dr. Satenstein kindly consented to make a biopsy and report the result at the next meeting.*

ERYTHEMA INDURATUM, BAZIN. Presented by DR. PAROUNAGIAN.

The patient, a girl, aged 15, had an affection on her legs, the duration of which had been since May, 1917. She had a number of nodules on the lower extremities, bluish in color, and one lesion was ulcerated. The lesions were more on the calf of the leg, some of them reddish purplish patches, and a number of them deeply embedded. There was no itching but they were slightly painful. They first began on the left leg and those on the right one followed. She had scars of scrofulous glands on the left side of the neck. The patient's parents were both dead, the father having died of pneumonia and the mother was sick ten years before her death. The case was presented as one of erythema induratum, Bazin.

CARCINOMATOUS DEGENERATION OF GUMMA. Presented by DR. OULMANN.

The patient, J. L., aged 53, had syphilis and about twenty years ago developed a gumma on the right os parietale of 50-cent piece size, extending to the periosteum. When he came to the clinic, about one and one-half years ago,

* Microscopic Examination: Seborrheic keratosis; no malignancy.

the Wassermann test was + + + +. Under antisyphilitic treatment the gumma started to heal, but was forming a tumor which seemed to consist of granulation tissue. This tumor was removed by carbon dioxid snow, but returned and increased in size, extending a good deal over the skin and showing a plum shape. The tumor was not very hard, discharged a thin pus from a few small openings, which did not show any blastomycetes, was slightly painful on pressure and prevented the patient from lying on this side. The lower margin of the tumor extended into the normal scalp, where a small, infiltrated reddish area existed. The Wassermann was strongly positive but antisyphilitic treatment did not influence the growth. A roentgenogram showed a distinct depression on the bone. The speaker regarded the case as a malign tumor developing on a gumma. The tumor would be excised during the week and the bone thoroughly scraped.

RAYNAUD'S DISEASE TREATED BY DIATHERMIA. Presented by DR. GEYSER.

The patient, Mr. L., a letter carrier by occupation, noticed, early in February, 1917, that his left hand was beginning to feel numb and cold, at times becoming anemic and blue. He devoted some little time consulting medical aid, was treated for rheumatism at several clinics and hospitals, also for blood poisoning and finally went to the Vanderbilt Clinic. There the diagnosis of Raynaud's disease was made. They treated him with internal medication and hot packs, etc., but the condition became worse. He lost weight and could not work. The pulse was entirely gone. He came under the speaker's care June 19, 1917. June 28, the pain had subsided and the condition improved very rapidly. Since that time the patient has been improving very steadily and for the past month had been back on his work as letter carrier. No massage had been used, nothing but diathermia. All the nails were completely returned, excepting the tip of one finger, which finally dropped off. All the rest were being healed. There was a piece of bone sticking out which the exhibitor said would probably have to be amputated. The patient could move his arm up in the air, which he said before treatment was practically impossible on account of pain.

DISCUSSION

DR. WISE said he had seen the case four or five months previously, and wished to state that the improvement was remarkable.

KERATOSIS FOLLICULARIS. Presented by DR. BECHET.

The patient, an adult man, from the service of Dr. Trimble, and a member of a family similarly affected, and previously reported by Dr. Trimble, had been suffering from the disease for many years. He stated that his mother, sister, brother, and two of his sister's children were similarly affected. The disease had grown worse in the past few years, and was now very extensive. The patient presented on the face, confluent, large patches of papillomatous lesions of a grayish color. The hands, arms, and upper part of the trunk were greatly involved, but the feet presented the greatest evidence of the activity of the disease. The toes were covered with elongated, horny masses, almost half an inch in height. The soles were also covered with the horny masses, which were of a yellowish black color. There was an enormous, armorlike thickening of the palms and soles. The condition of the soles was severe enough to make walking extremely painful.

TUBERCULOSIS CUTIS. Presented by DR. WISE.

The patient was a boy, aged 10 years, the duration of whose tuberculosis cutis lesions had been seven years. He presented a lesion on the right foot, about 4 inches long, on the outer side and below the ankle, extending toward the big toe. A depressed scar extended from the forward end of the patch toward the base of the toe, and apparently there were the remains of a sinus

leading to the tendon of the big toe. A swollen discoid patch was located on the calf of the leg.

ERYTHEMA MULTIFORME. Presented by DR. OCHS.

The patient was a small girl, who had previosuly been presented before the Society as a case of erythema multiforme perstans. The exhibitor said he had been seeing this child for three years, during which time she would have repeated attacks. He showed the case again to see whether that diagnosis would be confirmed, or if a diagnosis of prurigo or dermatitis herpetiformis might be made. The lesions cleared up at times in the summer considerably, but in the fall of the year the condition would again break out, going on through the winter. There were no mouth or vaginal lesions. The lesion on the arm, as well as the back, looked very much like erythema multiforme. The exhibitor said that Dr. Gottheil saw the case twice. She had had absolutely no cutaneous lesions for the past two years, until those shown appeared. The child had a secondary vaccinia on the buttocks.

DISCUSSION

DR. WISE said he thought this case one of prurigo mitis, with coincident urticaria.

DR. SATENSTEIN said the condition probably began as an urticaria, and the child had been scratching the lesions, and they were developing into prurigo. He did not see any evidence of erythema multiforme whatsoever.

DR. MOUNT said this was usually the history of prurigo, beginning on the buttocks and developing later on the arms and legs. He thought the case one of prurigo mitis.

DR. PAROUNAGIAN agreed with the diagnosis of erythema multiforme. As to the suggestion of prurigo, he said that he saw a great many cases of prurigo at the Gouverneur Clinic and his conception of prurigo was, that these patients had a generalized eruption consisting of small papules resembling scabies lesions, accompanied with urticarial wheals, the face and forehead being involved and the lesions never entirely disappearing; the flexors were usually free and there was marked adenopathy, and not as a rule symmetric distribution.

DR. OCHS said that last winter the child was practically free from lesions and also the summer before. The last time she was presented a clinical diagnosis of dermatitis herpetiformis had been made. He thought the lesions on the buttock and those on the left arm were erythema multiforme. The existing condition was followed by the vaccinia.

DR. PISKO said he considered this case dermatitis herpetiformis. There were vesicular lesions in groups; it was itchy and recurrent, but he could not discern the pigmentation in the artificial light.

BROMID ERUPTION. Presented by DR. GILMOUR.

The patient, S. G., was a school girl, aged 9 years, born in the United States. When 2 weeks old the child had a convulsion, and at the age of 7 began to have epileptic seizures, as many as five a day. She had taken medicine almost continuously since the beginning of the epilepsy, salty medicine, also medicine known to be bromids. The rash started on the back and inner side of the left leg three months previously.

October 13, 1917: There were fungating, papillomatous masses, covering an area 2 inches in diameter. The patient left the clinic and was seen that day after having been treated by a physician with a thick paste. The lesions had become flatter than when first seen.

DISCUSSION

DR. GOTTHEIL said, considering that the lesions were only on one leg, and that they were limited above by an absolutely sharp line, and that while the

child had been taking bromids for many years she had only had the eruption for a very short time, he regarded the lesions as traumatic.

DR. GILMOUR said it looked like a condylomatous affair, and was more fungating when he had seen it first.

DR. PAROUNAGIAN said he thought it was a bromoderma. He could not find any vesicles. In his opinion they were solid tumors.

ERYTHEMA MULTIFORME OF THE NODULAR TYPE. Presented by DR. SATENSTEIN.

The patient was an adult woman. Three years ago she had been seen by Drs. Weiss and Gottheil, as well as the speaker, for a similar eruption present at that time. There was a question about the diagnosis between erythema multiforme, lupus erythematosus and syphilis. The Wassermann reaction was negative. The eruption had then lasted six to eight weeks and was accompanied by rheumatic pains. Since then she had no attacks. The present condition had begun three weeks ago. She was presented at the Academy of Medicine, where there was a question as to whether it was lupus erythematosus or erythema multiforme. When presented here the lesions were all retrogressing, and the patient complained of pains in her joints, saying that they "crippled her."

DISCUSSION

DR. PISKO said he had seen the case the Wednesday previous, and the retrogression was so marked, that he did not think anything like this could happen to any kind of lupus erythematosus in less than a week. It showed very much the outlines of lupus erythematosus, but that was about all. If anything, lupus erythematosus of this size would show marked symptoms of progress.

DR. WISE said he thought the case was probably erythema multiforme, still, he had not made up his mind definitely whether it was that. He thought it might turn out to be lupus erythematosus; the literature contained many references to lupus erythematosus, which at a time might be indistinguishable from erythema multiforme. He said he was not so sure about this yet, that he held back a diagnosis until there had been a chance to watch the patient for the next two or three weeks.

SCLERODERMA. Presented by DR. GILMOUR.

The patient, E. M., was a woman, aged 40, married, housewife by occupation, and born in Russia. Fourteen years previously her fingers began to feel tight, and gradually became extended, till five years ago the backs of the hands were involved. The patient thought the condition began after a felon on the finger. The face had a fixed appearance and there was difficulty in talking and swallowing. There was a restricted motion of the fingers and ulcers on the tips of the fingers of both hands. The patient lost her right thumb nail, also the nail of her right fifth finger. They had again grown and the patient attributed the return to tablets of pituitary gland, 2 grains of the fresh gland substance (Burroughs and Wellcome's preparation) taken three times a day. The Wasserman test had been repeatedly negative. The patient had a high glucose tolerance.

DISCUSSION

DR. OULMANN said he presented the case two years ago. He had obtained a roentgenogram, and it showed very distinct shortening of the extremity. He saw the patient six months previously at the dispensary, and she said she was getting from bad to worse, and he did not see any improvement from that time up to the present. He would like to see her on the treatment a little longer, but she certainly had not improved up till now.

HYPERTRICHOSIS. Presented by DR. GILMOUR.

The patient, M. S., was a housewife, married, aged 30, and was born in Italy. The family history was negative. The condition here described was accidentally

discovered while giving an intramuscular injection of mercury salicylate for the treatment of syphilis. The patient was born with a growth of soft hair, a few inches long, situated over the small of the back. This had gradually increased in length and become coarser, so that now it was like the hair of the human head.

This hair was growing from a perfectly normal skin. There was no pigmentation or sign of nevus. About every twelve months, for the past eight or ten years, the patient had cut off the hair. The hair now present was 8 inches long and had been growing for one year. This growth had never been much longer than at the time of presentation. The space covered by the hair had a diameter of 4 or 5 inches. A roentgenogram of the lower end of the spine was negative.

DISCUSSION

DR. GOTTHEIL said that there was a distinct hiatus in the spinous processes of the vertebrae under the hairy growth; he regarded the case as one of those instances of spina bifida due to an inclusion cyst.

PURPURA ANNULARIS TELANGIECTODES. Presented by DR. WEISS.

The patient was an adult woman, who showed lesions of purpura annularis telangiectodes of the lower anterior surfaces of both legs.

DISCUSSION

DR. MACKEE said that he could not accept this case as one of purpura annularis telangiectodes. Eruptions like this were common in edematous legs, varicose legs and in the condition known as Schamberg's progressive pigmentation. In Majocchi's purpura there were no discernible contributory factors such as already mentioned. In Dr. Weiss' case there was pitting on pressure in both legs and in all probability a careful examination would reveal deep varicose veins. In any event the three stages and the separate and recurrent attacks as seen in purpura annularis were wanting. The fact that the histology was somewhat similar was not surprising, nor was it confusing, as marked vascular alterations with consequent changes in the other tissues were bound to occur in these chronic cases and the histology of all the various types might be very similar during certain stages of development. The cardinal histologic alteration in Majocchi's purpura was a panarteritis with destruction of the vessel through the process of hyaline degeneration, and this was wanting in Dr. Weiss' case. At least, it was not a conspicuous feature.

DR. GOTTHEIL said localized vascular dilatations were extremely common in chronic dermatitis cases, either with or without ulceration. In fact, he was convinced that they were usually passed over as part of the ordinary symptomatology of the case. He doubted whether the condition merited separate classification or enumeration.

DR. WISE said it might interest the members to know that this trouble had been described by Dr. Klotz about twenty-five years previously, under the name of dermatitis hemostatica. The speaker said Dr. Satenstein had called attention to the fact that dermatitis was not applicable, because there was no dermatitis, but clinically it was a fairly good name. Every minor and essential symptom seen in this case was described very fully. If this case was one of purpura annularis telangiectodes, then Majocchi's disease must be very common, because they saw cases like this very frequently in leg ulcer clinics.

DR. PISKO said he would like to have the term dermatitis hemostatica eliminated for good and ever, and just venostasis used, as that was all that was necessary, so there should be no confusion.

DR. SATENSTEIN said he might add to the previous speakers' statements, that at the time of the biopsy he found no edema. The patient had a biopsy in

February or March and the tissue, clinically, was apparently normal. The microscopic picture showed no edema, vessel changes only.

DR. WEISS said, in reference to this case, that in a paper soon to appear he pleaded for a broader view of this dermatosis. We could not in reason expect a perfect conformity of symptoms to exist in any described lesion type which would in every feature tally with the description given by the first observer. A symptom complex was not immutable; it may show variations in its component parts. The speaker said he agreed that this was a borderline case, showing only one (the hemorrhagic pigmentary stage) of the classic symptoms described by Majocchi and later on extensively by MacKee. The appearance of the lesions on both legs and their symmetry also added to the validity of the diagnosis. The lesions were coming, going and overlapping in their different stages, showing yellowish pigmentation of the affected parts.

PLANTAR ECZEMA. Presented by DR. GILMOUR.

The patient, A. McL., housewife, married, aged 35, was born in the United States, and had two healthy children, aged 12 and 8 years. There were no miscarriages. Oct. 8, 1916, she had her ovary and appendix removed, also an operation for laceration of the womb. The present condition began four years previously, both feet being equally affected and gradually reaching the present stage of development, which had caused a thickening and cracking of the soles of both feet. There had been more or less itching since the trouble began. For the last few periods, just before the flow, the feet had been worse, there had been cracking and bleeding, this condition becoming better when the flow was established. When the trouble began there was a rash between the fingers that lasted for one month. A few years ago there was a rash on the knees and elbows, but no definite history of its character was obtained. The eruption had not at any time been watery. Sweating had been absent. The Wassermann reaction was negative. For three weeks in September, because the heels were infected, the patient had to keep off her feet. She now had been walking for about one month.

DISCUSSION

DR. PISKO said he considered the diagnosis to be psoriasis.

DR. ROSEN agreed with the diagnosis of plantar psoriasis made by Dr. Pisko. On questioning the patient she stated that typical psoriatic lesions had been present on the elbows and knees when the plantar lesions made their appearance. Under treatment these lesions disappeared after about six to seven months. Psoriasis of the palms and soles was usually obstinate to all forms of treatment.

DR. PISKO said the patient had stated that at one time she also had lesions on the scalp.

DR. MACKEE said he agreed with Drs. Rosen and Pisko, that this was most likely a case of psoriasis, but he always hesitated in these cases to rule out syphilis absolutely, in spite of the fact that it was bilateral, and did not look particularly like syphilis.

DR. PAROUNAGIAN said he thought the diagnosis of psoriasis was the best that could be made in this case. He considered syphilis, as Dr. MacKee had suggested, but ruled it out on account of the negative Wassermann reaction, as it was an untreated case. He was inclined to the diagnosis of psoriasis and would suggest the application of an ointment containing salicylic acid, tar and chrysarobin as a diagnostic procedure.

DR. MOUNT said he had this brought home to him very forcefully. He had seen one case, which was most distinctively a case of eczema, which did not yield, and then a Wassermann reaction was made and found to be strongly positive. There was a prompt disappearance under antisyphilitic medication.

DR. OCHS said in spite of the fact that the Wassermann reaction was negative, he could not at all consider the lesions as psoriasis. He was sure the patient would show a positive Wassermann reaction.

CASE FOR DIAGNOSIS. Presented by DR. PAROUNAGIAN.

The patient was a woman, aged 26, born in Russia. She presented a skin condition which was more or less generalized, the duration of which had been one week. She had been pregnant for six months and had one child 5 years of age. The lesions were follicular in type, extending from the chin line down to her feet; there were red patches and a peculiar pigmentation; the flexors were more affected and the itching was very excessive. She had not had anything like this with her previous pregnancy.

DISCUSSION

DR. MACKEE said he thought it was an acute follicular dermatitis, probably of toxic origin.

SYPHILIS. Presented by DR. WISE.

The patient, W. W., man, aged 35, was a native of the United States, and had come from Dr. Fordyce's clinic. He presented a series of peculiar looking lesions, all of which were syphilitic. On the chin he had what looked like a frambesiform syphilid, but it had not the true strawberry or raspberry appearance. It looked more like a sycosis, so much so that several hairs were extracted but no tinea were found. There were some small papular lesions on each side of the nose, and on the forehead there were several distinctly circinate lesions, such as were usually seen on the chin, but even those were more like atrophic lichen planus than syphilis. There were scars on the penis, the remains of chancres, which the patient had had one year previously.

SECONDARY FOLLICULITIS AND LICHEN PLANUS. Presented by DR. WEISS.

The patient was a male adult, who exhibited signs of secondary folliculitis of both legs and thighs. On looking closer there were found lesions on the thighs and legs, which showed lichen planus papules. The patient acquired a secondary infection from scratching, caused by the intensive itching of the lichen process.

DISCUSSION

DR. BECHET considered all of the eruption a lichen planus.

DR. WEISS said the intensive scratch marks caused by the lichen process simulated folliculitis, which was the interesting point.

SYPHILIS. Presented by DR. WEISS.

The patient was a man, aged 45, who had had gonorrhea fifteen years previously, with a paraphimosis and perforation of the prepuce. He remembered having had multiple boils, also loss of hair. The present status showed a well developed man, who had an intensive papulo-pustular eruption, especially over the trunk and scalp. The forehead showed acneform, necrotic-like lesions, which would heal leaving depressed scars. At the angle of the right jaw there was a broken down lesion, the size of a pigeon egg, with an unhealthy looking base and steep border. The Wassermann reactions was ++++. The exhibitor tentatively showed the case as one of tertiary lesion of the jaw, a late secondary pustular syphilid of the skin, within the confines of a secondary roseola eruption. The patient had had some short treatment fifteen years previously, when he had taken pills.

DISCUSSION

DR. MACKEE said he thought that it was a case of chancre with a macular exanthem.

DR. PAROUNAGIAN said he agreed with the diagnosis of the cheek lesion, the chancre and early eruption of roseola.

DR. WISE said consideration must be taken of the chancre fifteen years previously. Either the patient did not have a chancre, but chancroid, or he had a second chancre. He supposed Dr. Weiss had brought the case on account of the unusual history, taken in connection with the lesions which the patient exhibited.

DR. PISKO said in former years this condition was labeled the varioliform type of secondary syphilis, and thought it was good to retain this designation.

DR. WEISS said, as Dr. Wise had remarked, the history of the case must be taken into account. The patient's paraphimosis, which he had fifteen years previously, might or might not have harbored a preputial chancre. In this event the assumption described before may have some validity. Six or eight weeks before being shown, a small lesion had appeared at the angle of the jaw, which had developed to the size seen that evening. As the patient had also a vesiculo-pustular syphilid and a macular eruption, taking the history into account, the speaker thought it might be a tertiary gumma with early and late secondary skin symptoms. Now, taking in consideration the development of the case it was much easier to assume that the broken down ulceration over the angle of the right jaw was a primary chancre, and that the vesiculo-pustular eruption was the sign of a precocious appearance of a late and severe secondary type.

DR. MOUNT said the lesions were entirely different in the late macular eruption and they were very much larger and more of the ring form. He said he had seen a case of macular annular syphilis twelve to fourteen years after the primary infection.

DR. GOTTHEIL said relapsing early syphiloderms were not uncommon. The trouble was that the same observer did not usually see them, since ambulant cases in our charities were notorious wanderers. In a hospital service, where the patients were kept for prolonged periods, these relapses occurred so often that they excited little comment.

DIATHERMIA IN RAYNAUD'S DISEASE. Presented by DR. GEYSER.

The patient, a man, aged 21, had been in the United States about five or six years, and was born in Russia. At the time of landing, or shortly thereafter, he noticed that his fingers looked white and bluish. The exhibitor simply wanted to show the case because on the day of presentation he had given the first treatment with diathermia, and he said he would again show the patient later on. The man had not been able to sleep on account of the pain at night, which was very severe. This time was the first he had ever had freedom from pain, immediately following the one treatment with diathermia.

BLASTOMYCOSIS. Presented by DR. WISE.

The patient, T. K., was a laborer, aged 55, a native of Ireland, who had come to the Vanderbilt Clinic two days previously. He came for dermatitis of the legs, for pain and inflammation, and had not mentioned anything about his bandaged hand. In other words, he did not care so much about the hand as he did about the inflammation of the legs. The skin of the latter presented a rather intense dermatitis with edema and swelling, resembling an exacerbation of a chronic eczema. The dorsum of the right thumb presented an oval patch of skin, about 1 inch in length, by half an inch in width; the surface was verrucous and slightly purulent, exhibiting a typical eruption of blastomycosis. The diagnosis was confirmed by the microscope.

CHICAGO DERMATOLOGICAL SOCIETY

Regular Meeting, Nov. 20, 1917

William A. Pusey, M.D., *President*

LICHEN PLANUS HYPERTROPHICUS. Presented by Dr. Pardee.

The patient was a man, aged 51, a merchant by occupation. The previous history was negative with regard to the present condition. Four years ago a lesion appeared on the right shoulder. When first noticed this was about the size of a pea, but gradually it increased and at the time of the biopsy had reached the size of a quarter, with a small, pea-sized new lesion just beyond its edge.

In character these lesions were that of firm tumors, deep red to reddish brown in color, which color did not disappear on pressure. Numerous dilated blood vessels were apparent, especially at the edges which were sharply defined from the normal skin. In the center of the oldest lesion there was a semi-atrophic patch about 2 cm. in diameter. Within the past few months similar lesions had appeared on the arms, below the elbows and the legs below the knees. These were nearly uniform in size and presented similar characteristics except that they were distinctly rough to the touch, suggesting lichen planus hypertrophicus, although the tumors were typical of this disease.

DISCUSSION

Dr. Schaffner thought it looked like a neoplasm of some sort, but did not consider it an epithelioma, and it was not like any case that he had ever seen of multiple sarcoma. The sections, however, were not typical of multiple hemorrhagic sarcoma in that the hemorrhagic feature was not pronounced.

Dr. Ormsby at first thought of hypertrophic lichen planus, but did not believe the histology was that of this disease. The histology pointed more toward sarcoma.

Dr. Heidingsfeld said the lesions on the arms appeared to him like those seen in the scaling eruptions of the skin. The lesion itself impressed him as a sarcoma.

Dr. Harris believed it was a hypertrophic lichen planus. If the section had been thinner so that the cells could have been seen better, he thought they would show the characteristic arrangement of lichen planus. He thought the lesion was too hard for a sarcoma.

Dr. Foerster thought it was a sarcoma; in several places involution had occurred, which was not unusual. He could see no resemblance to lichen planus.

Dr. McEwen did not regard it as a hypertrophic lichen planus.

Dr. Lieberthal thought from the examination of the specimen that multiple hemorrhagic sarcoma was out of the question and the character of the cells did not typify lichen planus. Another point that should be considered was that the lesion, which was removed from the back and from which the section was made, may have been a different process from what was found on the extremities. He further called attention to the small keratitic lesions on the right elbow, and thought that further study of these and the larger plaques might disclose more points in favor of the diagnosis of lichen.

Dr. Fischkin believed there were two conditions present. He was struck with the phenomenon Dr. Lieberthal mentioned—the distinct keratosis follicularis, and the tumors could not be associated with that. The section spoke against lichen, for the infiltration was too deep.

DR. STILLIANS said he had tried to make a diagnosis of lichen planus because the small outlying lesions on the legs were in lines, but they were follicular and acuminate and the tumors were too soft for lichen hypertrophicus.

DR. PUSEY thought the case was not sarcoma.

DERMATITIS HERPETIFORMIS. Presented by DR. STILLIANS.

The patient was a negress, aged 24, who presented lesions which appeared as little blisters, first on the back, then about the waist in patches and groups, with slight itching. She had been in the hospital three months previously with what was thought to be an erythema multiforme of the mouth; she also had blisters on the vulva at that time. The Wassermann reaction was negative. The patient was receiving normal horse serum and atropin sulphate. At the time of admission into the hospital she presented many groups of vesicles, other areas entirely denuded of horny epidermis, and others in which the lesions had receded, leaving marked pigmentations. In the axillae and groins were vegetations exactly like those in the other negro case, still in the hospital. The stomatitis was still so severe as to make feeding difficult, although the skin lesions had improved somewhat.

DISCUSSION

DR. HARRIS thought the interesting feature was the fact that the patient was in the hospital a few months previously with what looked like an erythema multiforme of the mouth, and that the present condition was a dermatitis herpetiformis.

DR. PUSEY thought the clinical picture looked more like pemphigus and that this case and that of a colored man shown later were essentially the same thing, with slightly different manifestations. The man had itching and the woman had burning sensations. The woman reminded him of a case seen several years ago which showed nothing but stomatitis at first, but when seen again two weeks later had a frank outbreak of pemphigus. He believed the prognosis for the woman was very much worse than for the man and that she would probably die shortly.

DR. MCEWEN believed this case and that of the colored man referred to in the discussion were very similar, and it seemed to him that in both instances the course was not that of a classical dermatitis herpetiformis by any means. He thought it might have to be accepted that pemphigus vegetans was not always immediately fatal.

DR. HEIDINGSFELD considered the two cases to be pemphigus and very similar, and cited a case seen by him which began as a pemphigus vulgaris with typical mouth lesions, and before death ensued all the cutaneous lesions were transformed into a pemphigus circinatus.

DR. HARRIS though the colored woman had the same type of lesions as the man with dermatitis herpetiformis vegetans.

DR. STILLIANS said that when the patient first came in she had distinctly angular vesicles, which with the grouping spoke for dermatitis herpetiformis.

DR. FISCHKIN believed the itching and grouping were not enough for the diagnosis of pemphigus and that one could never judge as to the fatal termination in pemphigus vegetans. He had seen patients die with very few small bullae and cited the case of a patient with decided, but scant, eruption of pemphigus vulgaris who was taken to the hospital after three weeks and died in three days. The toxemia was very severe but the cutaneous manifestation was very slight.

DR. ORMSBY thought the important fact illustrated in this case was that while pemphigus vegetans was usually fatal, it was well to know that dermatitis herpetiformis with associated vegetating lesions could simulate it to a marked degree.

(To be continued)

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CONTENTS

ORIGINAL COMMUNICATIONS

The Treatment of Dermatitis Venenata by Vegetable Toxins. Albert Strickler, M.D. 327

Experiments with Roentgen Rays and Radium. William H. Guy, M.D. ... 332

Folliculitis Ulerythematosa Reticulata. George M. MacKee, M.D., and Mihran B. Parounagian, M.D. 339

CLINICAL REPORT

Cheilitis Exfoliativa. Douglass W. Montgomery, M.D. 363

SOCIETY TRANSACTIONS

Manhattan Dermatological Society, Oct. 9, and Nov. 13, 1917 365

Chicago Dermatological Society, Nov. 20, 1917 377